

**African Caribbean people's experience of mental health services and  
factors moderating length of hospital stay**

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## **Declaration**

This work has not been submitted for any other degree or to any other institution.

**Structure and Word Count**

The literature review has been prepared according to the guidance given for submissions to the British Journal of Psychiatry (see Appendix 1. instructions for authors).

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## **Abstract**

This thesis consists of two sections: a literature review and research report.

The literature review was conducted in order to explore African Caribbean communities' perceptions and experiences of mental health services in the UK. A systematic search of electronic databases identified 21 articles. 10 were satisfaction studies, two were national surveys and nine used a qualitative methodology.

Experiences were overwhelmingly negative but community services were perceived more positively. Social exclusion was consistently mentioned by community members and service users when asked about their experiences. Conclusions drawn from the satisfaction studies didn't appear to reflect the findings reported in studies using qualitative methodology. Implications for service providers and directions for future research are discussed.

The research reports on an epidemiological study examining ethnic differences in length of acute hospital stay for adult inpatients (aged 16-65) in Sheffield. A retrospective analysis of patient records was conducted for all admission episodes over a five year period. African Caribbean patients were found to have the greatest length of stay, but these differences were no longer apparent when controlling for diagnosis. Deprivation and unemployment were not found to have a significant effect. The strongest predictors for length of stay were being detained under the Mental Health Act and receiving a diagnosis of schizophrenia. Being single was also consistently associated with greater length of stay across ethnic groups. The study emphasised the heterogeneity of black and ethnic minority groups and the limitations of broad ethnic categorisation.



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## **Section 1: Literature Review**

### **African Caribbean people's perceptions of mental health services in the UK**

# **African Caribbean people's perceptions of mental health services in the UK**

## **Background**

Health care inequalities continue to prove a challenge for service providers. In order to develop more appropriate services for African Caribbean people a better understanding is needed regarding their experiences of mental health services.

## **Aims**

To gain an understanding of African Caribbean communities perceptions and experiences of mental health services in the UK.

## **Method**

A review of the literature and narrative synthesis was conducted. Studies that had explored African Caribbean people's perceptions of mental health services were identified via a systematic search of electronic databases.

## **Results**

21 studies were identified; 10 satisfaction studies, two national surveys and nine qualitative studies. Experiences were overwhelmingly negative but community services were perceived more positively. No ethnic differences were found between levels of satisfaction.

## **Conclusions**

Current satisfaction measures are inadequate in the evaluation of services for the African Caribbean population. Social exclusion provided a backdrop to respondents' experiences. Implications for service providers and directions for future research are given.

## **Declaration of interest.**

None

## Introduction

Health inequalities continue to present an ongoing challenge to mental health services in the UK. Disparities in the experiences of black and ethnic minority groups are now well established<sup>1,2</sup>. African Caribbean people in particular, are the most over-represented ethnic group in mental health services<sup>3</sup> and are consistently shown to have the highest rates of admission to psychiatric hospitals<sup>1</sup>, intensive care units<sup>4</sup>, and forensic services<sup>5,6</sup>. Independent of psychiatric diagnosis and socio-demographic factors, African Caribbean patients are more likely to have been detained under the Mental Health Act 1983 than other ethnic groups<sup>7,8,9</sup> and are less likely to receive psychotherapy or be prescribed antidepressants<sup>10</sup>. Pathways to care for African Caribbean service users also tend to be more complex than for other ethnic groups<sup>1,11</sup>, often involving the police<sup>12,13</sup>, and resulting in a greater delay from first symptoms to diagnosis and treatment.

Raised rates of admission are often attributed to higher rates of diagnosis of schizophrenia within the African Caribbean population<sup>14,15</sup>. A variety of reasons have been proposed for this ranging from birth difficulties, migration effects, unemployment, social exclusion, lack of social support and racism<sup>16</sup>. It has also been proposed that black people display psychopathology in different ways to white people and that psychiatrists are often insensitive to such cultural differences<sup>17</sup>. Similar explanations have also been given for the high rates of detention of African Caribbean service users in England, alongside other service and patient related hypotheses e.g. services perceiving black patients as a greater risk<sup>8</sup> and lack of insight<sup>18</sup>. Poor engagement and mistrust of services are also thought to lead to delays in help seeking and a tendency for African Caribbean people to access services only when in crisis<sup>11</sup>. The reasons behind the apparent high rates of admission and diagnosis of schizophrenia within the African

Caribbean population are clearly complex and remain unclear. Many of the hypotheses are purely speculative and are unsupported within the literature.

Epidemiological research has started to move beyond simply describing differences between the health care received by African Caribbean people and the white majority, to the more complex task of identifying the underlying reasons for heightened admissions and detention rates for African Caribbean service users. There is also a general acceptance that racism experienced both within services, and society as a whole, contributes to poor relationships between African Caribbean communities and mental health services. The timeless, introverted and arguably ‘unhelpful’ debate concerning the existence of racism within psychiatric services (for review see<sup>19,20</sup>) has also begun to shift from a quest for individual blame<sup>21</sup>, to a focus upon understanding the multi-factorial interrelated issues that lead to perceived discriminatory responses from services<sup>22</sup>. Services themselves have also begun to develop more practical solutions to improving services for ethnic minority groups<sup>23</sup>.

The ‘Inside Outside’ report<sup>3</sup> in 2003 was an important step towards the reform of mental health services for people from black and minority ethnic communities. This document supported findings that Black African Caribbean people had poor access to mental health services and identified several key objectives and recommendations in order to improve the mental health of black and minority ethnic people living in England. The Delivering Race Equality in Mental Healthcare document (DRE)<sup>24</sup> shortly followed, providing services with a five year action plan for achieving equality and tackling discrimination in mental health services. It was hoped that this document would help services to fulfil obligations under the Race Relations (Amendment) Act 2000, which



made it unlawful for services to discriminate against anyone on the grounds of ethnic or national origin.

The three main priorities detailed within the DRE were more appropriate and responsive services, better information and community engagement. Twelve targets were provided that led to many changes within mental health services such as the increased recruitment of black and ethnic workers, compulsory training in cultural competency and the development of community support worker posts. Despite these initiatives there is concern that the visions of DRE are not being met. In fact, recent census data suggests that rates of admission for the African Caribbean population continue to be higher than for any other ethnic group<sup>25</sup>.

Clearly to achieve the targets set out in the DRE there needs to be a better understanding of the experiences and perceived needs of African Caribbean people. Services have recently begun to place a greater emphasis upon service user involvement<sup>26,27</sup> and indeed one of the targets of DRE was to give Black and ethnic minority communities more of an active role in the planning and provision of services. Some studies have attempted to gain insight into African Caribbean experiences of mental health services and their perspectives on new government policies, such as the Inside Outside report<sup>3</sup>. Service user satisfaction is also a key outcome measure in healthcare and studies indicating disparities in the levels of satisfaction for black and minority ethnic groups are often cited within the literature<sup>28</sup>.

Although some research has exerted a powerful influence e.g. the 'breaking the circles of fear'<sup>29</sup> study, which found that there were circles of fear preventing black people from engaging with services, it can be difficult to generalise or justify changes in

services from single studies<sup>30</sup>. A much needed review of the literature in this area is necessary as unlike the epidemiological literature<sup>1</sup>, it remains unclear what research has been conducted and whether findings from these studies are consistent across different services or areas of the country.

The aim of this study was to systematically review the literature regarding African Caribbean people's experiences and perceptions of mental health services in the UK. It is hoped that such a review will promote further research within this area and help to inform service providers about the experiences of African Caribbean people in the UK.

## **Methodology**

A systematic review approach was chosen in order to ensure that highly relevant research was identified and examined in a systematic manner. This rigorous and well defined approach allows researchers to identify consistencies and discrepancies within the literature whilst protecting against bias<sup>31</sup>.

## **Terminology**

It should be noted that many of the terms used in this review are often contested. It is hoped that the most accurate and widely understood terms have been utilised, but the author recognises that other terminology may be preferred. In particular, the term African Caribbean has been used to refer specifically to black people of African Caribbean origin rather than to encompass people of both African and African Caribbean origin as is often the case within the literature. The term service user is also used to describe people with mental health problems although some of these people may prefer to be described differently.

## **Search strategy**

To increase the likelihood of obtaining a comprehensive sample of relevant studies, a broad search strategy utilising a substantial set of search terms was used. A range of electronic databases were selected based upon their content i.e. related to social science, medicine or health. These databases included AMED (Allied complimentary medicine) 1985 – 2<sup>nd</sup> April 2009, British Nursing Index and Archive 1985 – 2<sup>nd</sup> April 2009, Ovid Medline (R) in process and other non indexed citations and Ovid Medline (R) 1950- 2<sup>nd</sup> April 2009, and Psychinfo 1967 – 2<sup>nd</sup> April 2009. The choice of year ranges was intentionally broad in order to be as inclusive as possible at this stage of the review. A search of these databases, via the Ovid SP search engine, was conducted on 2<sup>nd</sup> April 2009 using the following search terms; Caribbean, Caribean, Caribbean, Carribean (within all fields) and satisfaction, attitude, perception, qualitative, relationship, engagement, alliance, interviews, opinions, experience, expectations (within title, abstract or key words) and health, mental, illness, service (within title, abstract or key words). The electronic search resulted in the identification of 2,558 articles.

## **Inclusion Criteria**

Studies were included in the review if they fulfilled the following criteria;

- 1) adult mental health related articles, conducted within the UK.
- 2) involved interviews, focus groups, questionnaires or surveys regarding participants' experience of, or perception of mental health services.
- 3) included a minimum of two African Caribbean participants (where no detailed ethnic breakdown was given, enough information had to be available to allow for an educated assumption that African Caribbean people were included in the sample e.g. through reference to African Caribbean people when using the term

‘black’ or the recruitment of large numbers of ‘black’ participants within a survey).

Studies were excluded if they focused upon;

- 1) non adult mental health i.e. learning disabilities, older adult, child and adolescent mental health services or physical health services.
- 2) non UK based studies
- 3) purely epidemiological data

or if;

- 4) no attempt had been made to give a breakdown of both sample and results in terms of ethnicity.

The majority of the articles were excluded on the basis of their title or abstract, but where necessary a full review of the article text was conducted. All the articles that fulfilled criteria were hand searched in order to identify further potential references. A narrative approach to synthesis was taken, which is recommended where the studies included in a review are heterogeneous and utilise a variety of different designs<sup>32,33</sup>. Methodological quality was not used as a criterion for exclusion due to the limited research within this area; however the quality of studies and strength of results, dependent upon numbers of African Caribbean participants, are reported upon throughout the review. Specific guidelines were also utilised to critique the qualitative studies<sup>34</sup>.

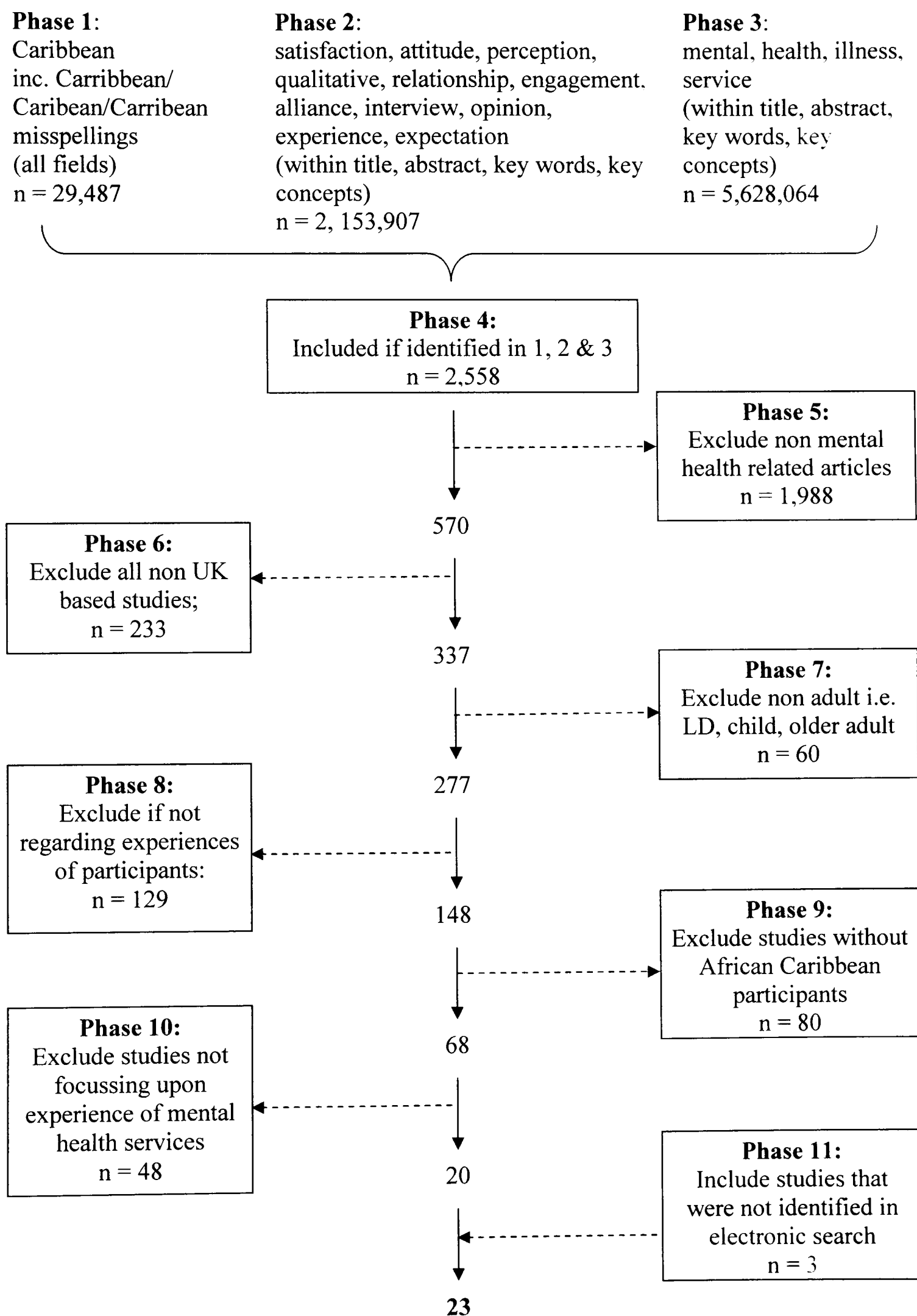
## **Results**

Figure 1 provides a detailed breakdown of the search procedure and the number of articles identified at each stage of the process. Of the 2,558 articles identified in the electronic search, 20 fulfilled the inclusion criteria. A further three papers were identified within these articles, contributing to the total 23 articles included within the

review. Reference information, sample size, study design and key limitations are presented in table 1. Of the 21 studies described within the 23 articles, 10 focussed upon evaluating service users or their relatives' satisfaction with a variety of aspects of mental health care provision. The other 11 studies aimed to explore African Caribbean people's experiences of mental health services either through interviews, focus groups or surveys of community members, service users, carers and health professionals. Eight studies used purely qualitative methods, whereas eight used a quantitative design and five used a mixed methodology. Seven had not broken down ethnicity in terms of African Caribbean, using broader ethnic categories. The studies were broken down into six distinct categories; studies examining 1) service user satisfaction with inpatient services, 2) service user satisfaction with community mental health services, 3) relatives satisfaction with mental health services, 4) national surveys; 5) studies exploring service user experiences of mental health services, and 6) community perceptions of mental health services.

### **Satisfaction with inpatient services**

Five studies investigated patients' satisfaction with inpatient services. A study by Bhugra et al in 2000, found that inpatients to a South London hospital were generally satisfied with staff attitudes and care, but were less satisfied with aspects of their treatment, particularly their involvement in treatment planning<sup>35</sup>. The authors found no differences between ethnic groups in levels of satisfaction but African Caribbean patients were more worried regarding contacting services in the future. Conclusions were limited though due to a low response rate and because questionnaires were conducted during the early stages of admission rather than at discharge. Similar results were also found in a larger scale study in Birmingham, which used broader ethnic categories and consisted of a high proportion of black patients<sup>36</sup>. Few ethnic differences



**Figure 1: Review process**

were apparent in satisfaction with hospital care at 3 months post discharge, but Black and Asian patients were more likely to express dissatisfaction with the admission process. Black patients within this study were also significantly less satisfied about their relatives being able to visit them on the ward.

The largest inpatient study identified in the review (n=433) also failed to find significant differences between ethnic groups in levels of satisfaction prior to discharge<sup>37</sup>. Three quarters of the participants were satisfied with their treatment, but two thirds reported adverse incidents whilst in hospital. One inpatient study, that did not breakdown results in terms of ethnicity due to small numbers of African Caribbean participants, found an association between lower levels of satisfaction and a diagnosis of psychotic illness<sup>38</sup>. Patients also appeared happier with the personal rather than professional qualities of their psychiatrists and talking to professionals was perceived to be the most helpful aspect of care, whereas access to doctors was seen to be a particular problem. A mixed methodology study investigating the suitability of catering practices for inpatients from ethnic minority groups, also reported that only half of the African Caribbean participants in their study were aware of multicultural meal availability and that 31% of those people actually ordered these meals, which was less than any other ethnic group<sup>39</sup>. This was a very poor quality study as the authors did not attempt any statistical analysis or provide any illustrative extracts.

### **Satisfaction with community mental health services**

As part of a wider study evaluating community mental health services in South London, Parkman et al<sup>28</sup> found differences in the satisfaction levels of African Caribbean and White patients with a diagnosis of psychosis. In this study second generation African Caribbean patients born in the UK were significantly less satisfied with almost every

aspect of services they received, than either African Caribbean patients born in the Caribbean or white patients. Differences in age-trends between the ethnic groups were thought to be accountable for these disparities. UK born African Caribbean patients satisfaction decreased as they became older, whereas the inverse was true for all other groups. Differences continued to be apparent when comparing all African Caribbean patients and white patients, but were no longer statistically significant.

A further study utilised satisfaction scales as part of a randomised control trial to evaluate the effects of an early intervention in psychosis service in Lambeth<sup>40</sup>. Among other outcomes, satisfaction scores significantly improved at 18 months for the patients treated by the early intervention service. These differences occurred in items measuring manners and competence of staff and overall satisfaction with service offered; however these differences were no longer significant when adjusting for ethnicity, age and number of episodes. Differential attrition between groups and the results of subsequent sensitivity tests suggested that the satisfaction scores should be treated with caution.

### **Relatives' satisfaction**

Several studies were conducted in the 1990's concerning the satisfaction of relatives of African Caribbean patients. A study by Mc Govern et al<sup>41</sup> found no ethnic differences between satisfaction scores of patients and their relatives, despite results suggesting that African Caribbean relatives perceived services as racist. African Caribbean participants also felt that specific day centres for black people would be beneficial. A further study by Leavy et al<sup>42</sup>, found that generally most patients were satisfied with mental health services but that their relatives tended to be less satisfied with provision of aftercare. Again African Caribbean patients and relatives were not especially likely to be dissatisfied with treatment received, but their relationships with services tended to



deteriorate over time. The final study interested in African Caribbean relatives' satisfaction levels, was a small scale mixed methodology study that examined whether high rates of compulsory admission in the African Caribbean population could be explained by attitudes of relatives towards psychiatric care<sup>43</sup>. Relatives felt that hospital was a good place for people to have a break from social pressures. Their attitudes did not differ with regard to admission status and were again found to be similar to those held by white psychiatric patients' relatives.

### **Surveys**

Two surveys have also been conducted concerning African Caribbean experiences of services. The largest of these incorporated two national postal surveys in 2004 and 2005 of over 25,000 users of mental health services<sup>44</sup>. Ethnicity was found to have a smaller effect on patient experience than other variables; however due to lower response rates for black patients (n=623, 2.3% of total sample) they were unable to use census categories for comparative analysis. Black patients did not report negative experiences but a higher proportion were reported to be living alone.

The second survey was conducted over a series of community consultation events as part of the process of developing a national strategy for improving mental health services for black and ethnic minority groups<sup>45</sup>. The results, although lacking in generalisability due to the selective nature of the sample, suggested that black respondents were more likely to comment negatively about the quality of mental health care or to see staff racism and lack of cultural awareness as a problem than other minority groups. 94% of respondents supported the key aims of Inside Outside, and seven key recommendations were identified by respondents as necessary for improving services. These included improving awareness of mental health in ethnic communities,

building community capacity, addressing wider social inequalities, involvement of service users, support to carers, cultural competency training, employment of black and ethnic minority staff, clear performance targets and sharing of information.

### **Service user experiences**

Five qualitative studies were identified that focussed upon black service users experiences of mental health services. Several of these studies did not differentiate between African and African Caribbean perceptions, but all were conducted within the last ten years. In a study comparing black and white service users views of mental health services (n=104, black 49%) several similarities were reported including wanting better out of hours services, more employment and drop in services, better communication and support for carers<sup>46</sup>. Black service users were particularly concerned about relationships with staff as they felt they were treated differently due to staff's lack of understanding of their experience as a black person, and were only able to access services when in crisis. 55% of black participants disagreed with the development of a specific ethnic service but conceded that needs of black people were not being accommodated by mainstream services. This was one of the few qualitative comparative studies; however as it was only a short article a detailed methodology was not available.

Similar reports of inadequate services were given in a study in Liverpool that called for mental health services to use the existing structures in the black community to action user involvement<sup>47</sup>. Black service users reported a lack of talking therapies, forfeited rights in hospital, an over emphasis upon medication and a lack of knowledge regarding cultural issues. In the context of the interviews it was also reported that several of the participants spoke extremely positively about black community services. One study

conducted in order to evaluate such a service, was a study by Secker & Harding<sup>48.49</sup>. The service had been developed in response to high rates of admissions of African and African Caribbean people, who were experiencing severe, and enduring mental health problems and living unsupported in the local area. The service was highly valued by service users and in particular was successful in reducing isolation and addressing issues of identity and self worth for clients. The authors also explored the same service users' experiences of inpatient services and in contrast their responses revolved around a loss of control, poor relationships with staff, and experiences of racism.

Another study focussing upon service users experiences of community services, aimed to explore processes of disengagement and engagement in assertive outreach patients<sup>50</sup>. Patients felt that a desire to be independent, stigma associated with mental illness and lack of active participation in treatment as key reasons for disengagement with services. The focus of the team not just upon medication but upon social support and engagement was seen to be the key theme related to engagement; however the study did focus upon patients who had disengaged from other services and engaged with the team in question. No ethnic differences were apparent in patients views but African Caribbean patients were more likely to have a compliant rather than engaged relationship with their psychiatrist. The authors concluded that a comprehensive care model, committed staff with sufficient time, and a focus upon relationship issues, is important when dealing with difficult to engage patients. One small exploratory study regarding the experiences of dual diagnosis clients also reported upon two African Caribbean patients who felt services lacked cultural sensitivity and who were particularly focussed upon gaining employment in the future<sup>51</sup>.

**Table 1: Characteristics of studies included in the review (ethnic classifications are those used in original studies)**

Reference	Aim	Participants	Method	Main findings	Key limitations
Barker et al (1996) <sup>38</sup>	Investigate levels of patient satisfaction with psychiatrists and psychiatric care.	137 acute psychiatric inpatients across several hospitals (African Caribbean n=7, 4%)	Quantitative: Questionnaire regarding patient satisfaction and attitudes towards doctors (developed from Oppenheim <sup>62</sup> )	Inpatients attitudes towards psychiatric care involve complex relationship between clinical and socio-cultural characteristics.	No breakdown of results by ethnicity. Small proportion of African Caribbean participants.
Bhugra et al (2000) <sup>35</sup>	Investigate satisfaction with different aspects of care in a group of psychiatric inpatients.	72 patients admitted to a psychiatric hospital over a four month period. (African Caribbean n=20, 38%).	Quantitative: Modified Satisfaction Questionnaire (Kelstrup et al <sup>63</sup> ).	Patients were generally satisfied with staff attitude and care. No effect of ethnicity on levels of satisfaction.	Questionnaires conducted early on in admission. Poor response rate.
Commander et al (1999) <sup>36</sup>	Compare pathways to psychiatric care and provision of inpatient and after care for Asian, black and white patients with non-affective psychoses	240 patients recruited from psychiatric hospital, 120 at admission and 120 at discharge split equally amongst three ethnic groups (Black n=80, 33%).	Quantitative: Verona Service Satisfaction Scale <sup>64</sup> . Inpatient Satisfaction Questionnaire (Kelstrup et al <sup>63</sup> ) and Insight Questionnaire (Birchwood <sup>65</sup> ).	Few ethnic differences in satisfaction with hospital care and perception of unmet need, although black patients were most likely to express dissatisfaction with the admission process.	Use of broad ethnic categories. No detail given of statistical tests employed or values.
Garety et al (2006) <sup>40</sup>	Evaluate effects of an early intervention service on clinical/social outcomes and service user satisfaction.	144 people with psychosis presenting to mental health services for first or second time (African Caribbean n=22, 15%).	Quantitative: Randomised control trial using Verona Service Satisfaction Scale <sup>64</sup>	Outcomes significantly better at 18 months for EIS group including their satisfaction with treatment and health professionals.	Differential attrition between groups Underpowered No ethnic comparison of results
Greenwood et al (1999) <sup>37</sup>	Measure overall inpatient satisfaction and examine relationship to inpatient experience.	433 inpatients from six psychiatric units (black n=53, 12%).	Mixed: Client Satisfaction Questionnaire <sup>66</sup> and single question concerning patient experience, which was content analysed.	Over three quarters of patients satisfied, but two thirds reported adverse events. No significant difference found by ethnic group.	Use of broad ethnic categories
Hartley & Hamid (2002) <sup>39</sup>	Review accessibility and suitability of multicultural meals for ethnic minority communities.	98 patients (African Caribbean n=31, 32%) nine community focus groups, n=75 (one African Caribbean organisation n=9, 8%). 9 nurses (undisclosed).	Mixed: An inpatient satisfaction survey & nursing knowledge questionnaire. Focus groups utilising open questions, thematically analysed.	African Caribbean patients least aware of availability of multicultural meals. Improvements could be made to accessibility and suitability of meal choices.	Purely descriptive analysis No illustrative extracts given to ground the qualitative results

**Table 1(cont)**

Reference	Aim	Participants	Method	Main findings	Key limitations
Keating et al (2002) <sup>29</sup> ; Keating & Robertson (2004) <sup>52</sup>	Explore nature and consequences of fear in black communities and mental health services.	135 participants: Professionals (n=45; African Caribbean n=23, 51%), police officers (n=7, all white), psychiatrists (n=12, all white), service users (n=29, African Caribbean n=18, 62%) and carers (n=19, African Caribbean n=15, 79%).	Qualitative: 16 Focus groups and 12 one-to-one interviews with psychiatrists. Elements of grounded theory. Axial coding and open coding frame used to categorise responses.	Circles of fear negatively impact upon interactions between black communities and mental health services. Mental health services experienced as inhumane, unhelpful and inappropriate.	No major limitations
Leavy et al (1997) <sup>42</sup>	Assess whether ethnic differences exist between patients and relatives satisfaction with psychiatric aftercare following a first episode of psychosis.	93 patients with first onset psychosis recruited over 12 month period (African Caribbean n=19, 20%).	Quantitative: Authors' service satisfaction questionnaires (PSQ/RSQ) and Family Service Satisfaction Scale <sup>67</sup> .	Most patients satisfied with treatment but relatives were dissatisfied with aftercare. Black patients and relatives were not especially likely to be dissatisfied.	Use of broad ethnic categories High drop out rates
McClean et al (2003) <sup>53</sup>	Understand African Caribbean community perspectives on mental health services.	30 individuals from or working within African Caribbean community in South East England town (proportions undisclosed).	Qualitative: Semi-structured interviews and focus groups. Transcribed and analysed using grid coding method.	Social exclusion provides an explanatory framework, repeatedly invoked by community members when describing interactions with mental health services.	Lacked credibility checks or a detailed account of participant demographics
McGovern & Hemmings (1994) <sup>41</sup>	Compare attitudes, opinions and satisfaction of black and white patients and their relatives.	65 patients with first psychiatric admission diagnosis of psychosis, admitted 1980-84 (African Caribbean n=37, 57%), and 59 relatives (African Caribbean n=32, 62%).	Quantitative: Client Satisfaction Questionnaire <sup>66</sup> and series of questions regarding different domains of care.	No ethnic differences between satisfaction scores and views regarding different aspects of treatment. Black relatives were more likely to perceive services as racist.	Small numbers and underpowered for ethnic comparisons.
Morley et al (1991) <sup>43</sup>	Explore whether high rates of Afro-Caribbean patients compulsorily admitted to hospital, can be explained by attitudes of relatives towards psychiatric care.	25 relatives of African Caribbean patients admitted to a psychiatric unit and experiencing psychotic symptoms.	Mixed: An attitudes to psychiatric hospital scale. Open ended questions regarding relatives' view of clients difficulties, thematically analysed.	Relatives' attitudes and experiences did not differ with regard to patients' admission status. Attitudes were similar to those held by white psychiatric patients' relatives.	Small numbers and underpowered for statistical analysis

**Table 1(cont)**

Reference	Aim	Participants	Method	Main findings	Key limitations
Parkman et al (1997) <sup>28</sup>	Establish satisfaction with mental health services of representative psychosis patients in south London.	184 patients previously diagnosed with a psychotic disorder (African Caribbean n=50, 27%).	Quantitative: Verona service satisfaction schedule <sup>64</sup>	Satisfaction ratings for mental health services are significantly worse for UK-born Black Caribbean patients than older Caribbean or white patients.	No major limitations although like other studies ethnicity was defined from case notes.
Pierre (1999) <sup>54</sup>	Explore experiences of African and African Caribbean people admitted to acute psychiatric services, and views about treatment.	20 service users, 10 professional mental health workers and 10 leading figures in black community (all African or African Caribbean).	Qualitative: Semi-structured interviews and unstructured focus groups. Thematic content analysis used.	Overall negative experience and negative view of adequacy of mental health services to meet the needs of the black community.	Lack of credibility checks or situating of sample. No patient demographics given, including breakdown of ethnicity.
Pierre (2000) <sup>47</sup>	Investigate appropriateness of statutory psychiatric services for the black community in Liverpool	18 African or African Caribbean service users.	Qualitative: Semi-structured interviews and focus groups. Thematic content analysis used.	Anxieties about conduct of psychiatry in Liverpool are apparent. Structures already exist in the black community for mental health services to action user involvement.	Not grounded using illustrative extracts. No credibility checks. Slightly incoherent structure.
Priebe et al (2005) <sup>50</sup>	Explore views of disengagement and engagement held by patients of assertive outreach teams.	40 patients with diagnosis of functional psychosis from nine assertive outreach teams. (African Caribbean n=18, 45%)	Qualitative: In depth interviews analysed using components of thematic analysis and grounded theory.	No differences between ethnic groups. A comprehensive care model, committed staff and a focus upon relationship issues were viewed as important.	Good quality study but few sample characteristics given.
Raleigh et al (2007) <sup>44</sup>	Examine ethnic differences in patients experience of community mental health services	26,625 users of mental health services across England users in 2004 and 25,143 users in 2005 (Black n=622, 2.3% & n=514, 2%).	Quantitative: Two national patient surveys in 2004 and 2005.	Ethnicity had a smaller effect on patient experience than other variables. Black patients did not report negative experiences.	Low response rates for black and ethnic minority groups. Unable to use Census ethnic categories.
Roach (1992) <sup>55</sup>	To examine the provision of community mental health services and uptake of services by black and ethnic minorities.	120 black and ethnic minority users and non users of mental health services (African Caribbean n=52, 33%). Service providers, multidisciplinary teams and voluntary agencies (undisclosed)	Mixed: Postal questionnaires, interviews, group discussions, observations and an attitude survey. (methodology undisclosed)	96% of sample appalled at lack of emphasis upon meeting the needs of black and ethnic minorities. Service users had little or no say in the provision of services and many service providers had little or no contact with black and ethnic minority patients.	Methodology not explained Results not grounded using illustrative extracts.

**Table 1(cont)**

Reference	Aim	Participants	Method	Main findings	Key limitations
Robertson & Sathyamoorthy (2000) <sup>46</sup>	Explore views of black and white service users	104 service users were randomly selected from mental health services in one London borough (black n=51, 49%).	Qualitative Interviews (no further detail)	Aspects of services that most concerned black people were supportive relationships with staff, services role as a safety net, treatment received and drop in services.	Little detail available regarding methodology Few sample characteristics given as short article.
Secker & Harding (2002) <sup>48,49</sup>	Evaluate service user experiences of an African and Caribbean resource centre and explore their experiences of inpatient services.	26 clients who had engaged with an African Caribbean resource centre over a 6 month period (ethnicity obtained for n=24, African Caribbean n=18, 75%).	Qualitative: In depth interviews using content analysis.	The centre was providing a valued service. It was successful in reducing isolation and addressing issues of identity and self worth for clients. Responses regarding inpatient services revolved around a sense of loss of control and experiences of implicit and explicit racism.	No credibility checks disclosed but otherwise a good quality study
Walls & Sashidharan (2003) <sup>45</sup>	Evaluate community opinions, views and experiences of mental health services	477 community members from 14 ethnic minority consultation events in England (black n=110, 23%; 20% of whom were service users, 26% carers and 42% mental health professionals).	Mixed Survey & 3 open ended questions regarding experience racism, cultural sensitivity and recommendations for services, thematically analysed.	Black people were most likely to report negatively about quality of mental health care and to see staff racism and lack of cultural awareness as a problem. 94% respondents supported aims of Inside Outside.	Lack of generalisability due to selective sample Use of nonparametric statistics rather than more sophisticated methods.
Warfa et al (2006) <sup>51</sup>	Compare health and social care experiences of African Caribbean, African and White British men reporting dual diagnosis.	9 service users with presence of mental health difficulties and substance misuse (African Caribbean n=2, 22%).	Qualitative: Semi-structured interviews. Analysed and coded using framework method of content analysis.	Service providers are not consistently addressing substance misuse and need to reconsider their cultural capability to engage hard to reach ethnic groups.	Very small sample limiting conclusions drawn.

## **The experiences of African Caribbean communities**

Four studies were identified that sought to explore not just service users, but communities and professionals perceptions of African Caribbean experiences of mental health services. The largest and most comprehensive of these was the ‘breaking circles of fear’ study conducted by the Sainsburys Centre for Mental Health<sup>29,52</sup>. The study was based upon the premise that there are circles of fear that negatively impact upon African and African Caribbean experiences of services. The key findings from the 17 focus groups and one to one interviews were that mental health services were experienced as inhumane, unhelpful and inappropriate. Black participants felt that services mirrored their experiences of racism and discrimination within society. In particular their experiences of acute care were marred by confrontational interactions with professionals, an emphasis upon medication and an autocratic use of power. Fear generated from attitudes towards mental illness and negative perceptions and experiences of mental health services, resulted in poor engagement and a delay in help seeking behaviours. Professionals fear of talking about issues of ‘race’, hindered attempts to challenge their negative perceptions of African Caribbean people and in turn led to less appropriate services for this client group.

A smaller scale study in 2003 also found that African Caribbean stakeholders’ perceptions of mental health services were predominantly negative<sup>53</sup>. Social exclusion was thought to provide an explanatory framework repeatedly invoked by community members when describing their interactions with mental health services. African Caribbean stakeholders felt that a lack of understanding of the African Caribbean community as a ‘cultural entity’ often resulted in misdiagnosis and inappropriate treatment. Although a reduction in institutional racism was perceived to have occurred in recent years, African Caribbean participants felt that a radical change was still



necessary, including the development of ethnic-specific services. Professionals on the other hand felt that cultural competency training was a sufficient preventative measure. The authors concluded that participation and partnership were essential in order to generate the objective and subjective inclusion necessary to change the mental health experiences of African Caribbean people.

A study incorporating interviews with service users, mental health professionals and key figures within black communities in Liverpool also described a variety of negative experiences for black service users including a failure to inform patients of their rights, a focus upon medication, and racism being unchallenged by staff<sup>54</sup>. Service users' suggestions for improving services included a more person centred focus involving talking treatments and service user involvement in treatment planning. Black staff were also seen to be key mediators between service users and the mental health system. A large scale study has also been conducted with 120 service users and a number of service providers<sup>55</sup>. 96% of those involved in the study were appalled at the lack of emphasis upon meeting the needs of black and ethnic minority groups. Service users were perceived to have little or no say in the provision of services and in many instances service providers had very little contact with black or minority patients. The results are limited though as the paper did not give an adequate description of the methodology used and was published over seventeen years ago.

## **Discussion**

There is now a broad consensus that inequalities exist in the provision of health care for African Caribbean people. In fact some authors have gone so far as to suggest that there is not a single aspect of contemporary psychiatry in which black people are not disadvantaged<sup>19</sup>. The government have developed several key policy frameworks to

tackle discrimination in the NHS; however there are current concerns that these are not being realised and that rates of admission remain higher for African Caribbean people than for any other ethnic group in the UK. This review sought to provide a much needed overview of the literature regarding African Caribbean people's perceptions of mental health services.

### **Satisfaction studies**

The studies identified generally reported that participants were satisfied with the treatment they received. Interestingly only one of the studies found African Caribbean people to be less satisfied with mental health services than white patients. This was one of the stronger studies, and the majority were underpowered, but the other eight studies found no ethnic differences between satisfaction levels of patients and their relatives. A number of reasons could account for these findings. Firstly significant differences were only apparent when distinguishing between African Caribbean people born in the Caribbean and those born in the UK, which few other studies attempted. All the studies were too small to control for other explanatory variables shown to be associated with dissatisfaction e.g. consecutive admissions, rates of detention, age and living status. Questionnaires were also often conducted on wards by health professionals, which may have made it difficult for service users to disclose their true experiences.

The majority of the studies were also comparative in nature and need to be interpreted with care. Presuming that the white population represent some type of health norm is contentious<sup>56</sup> and specific norms for African Caribbean service users were not available for any of the questionnaires used. Clearly satisfaction is a difficult concept to measure and is seen to be influenced by predetermined expectations, gratitude bias and a variety of other factors<sup>57</sup>. It may be that African Caribbean people in these studies were

generally satisfied with services and had similar experiences to the white population; however this would be at odds with the larger scale qualitative studies reported in this review. The usefulness of satisfaction as a concept for the evaluation of services for African Caribbean people is questionable, as are the questionnaire based methods utilised by the majority of studies.

### **African Caribbean perceptions of mental health services**

The nine qualitative studies exploring the perceptions of African Caribbean people painted a bleak picture of their experiences of mental health services. Experiences of acute care were overwhelmingly negative and were thought to significantly impact upon their willingness to engage with services in the future. It was felt that services mirrored experiences of implicit and explicit racism within wider society and that care tended to be offered only when in crisis. Service users did not feel listened to or respected by health professionals and rarely felt involved in their treatment planning. An overemphasis of medication and lack of talking therapies was also a concern for African Caribbean community members. Several service users felt that they would have received different treatments if professionals had possessed a better understanding of their culture. Social exclusion appeared to be an overarching theme, repeatedly evoked by the African Caribbean respondents when describing their experiences of services.

All the studies involving interviews with African Caribbean community members indicated that services were consistently failing to meet the needs of African Caribbean people in the UK. One study did suggest that some African Caribbean people were seeing changes occurring within services, albeit due to wider societal shifts. but that they felt drastic changes were still necessary to provide more appropriate services. The only positive experiences reported by service users were regarding two community

mental health services, one of which was an African Caribbean resource centre. The centre was perceived to provide a haven from racism and helped to develop a sense of identity and self worth among its users. An assertive outreach service was also seen to be useful by its clients due to its focus upon engagement and social needs rather than a purely medical model.

### **Service responses**

The views expressed by African Caribbean people appeared to be congruent with recommendations for improving services for black and ethnic minority groups described within current policies<sup>3,24</sup> and key articles<sup>29,58</sup>. Although it is beyond the scope of this review to provide a detailed account of all the recommendations, several key themes were highlighted across the studies. Time and time again respondents referred to a desire for a more person centred approach to their care. As well as an improved awareness of culture, African Caribbean respondents simply wanted to feel respected and listened to by health professionals. Across both qualitative and satisfaction studies patients wanted to have more involvement in their treatment planning and felt that services should include their families or carers more in their treatment. The need for a greater number of black professionals and specific ethnic services was also repeatedly mentioned. Arguments for and against separate ethnic services have been discussed in depth elsewhere<sup>59</sup> so will not be repeated here, but respondents were often split with regard to this issue; some feeling this was a backward step, whereas others felt mainstream services were not appropriate to their needs.

The limited research suggests that African Caribbean people might be better served by community services, especially those utilising an assertive outreach model with a focus upon engagement. Multicultural services are particularly well received but need to be

valued and supported in order to develop effective partnerships between mainstream health services and local communities. Treatment does not occur within a vacuum and services need to consider the wider social exclusion experienced by African Caribbean people accessing services. Racism needs to be taken seriously and professionals need to understand that racism whether experienced as violence, institutional discrimination or socioeconomic disadvantage has a detrimental effect on health<sup>59</sup>. More choice needs to be offered in terms of treatment, especially in terms of psychotherapy, and there needs to be a greater awareness of the inherent power imbalance that occurs within psychiatric services. Transparency is key, as although changes may be occurring within services these changes need to be perceived by African Caribbean people in order for them to impact upon their relationships with services. African Caribbean communities should be involved throughout the development, planning and evaluation of services in order to develop services that are more appropriate to their needs.

## **Limitations**

This review had a number of limitations. Several American studies and health studies were excluded by the search strategy, which may have provided findings of interest to mental health services in the UK. Studies focussing upon the African population in the UK were also excluded in order to provide a more specific focus; however these studies may have provided some transferable findings and it could be argued that many of the studies in the review did not differentiate between African and African Caribbean participants. The quality of the studies also varied and the author did not exclude studies on this basis. Although the author strived to provide a comprehensive review, reviews of this type are difficult as a number of studies exist within the grey literature. It is felt that the majority of the studies of interest were identified, but a broader search in future may result in the exposure of a greater number of unpublished studies.

A further drawback of this review was that the author did not include African Caribbean perceptions of mental illness and associated stigma. This is an important area that needs to be explored as it has been suggested that African Caribbean people may have different health beliefs and behaviours that distinguish them from other ethnic groups<sup>60</sup>. As with all the studies included in the review, the findings focus upon ‘perceived’ rather than ‘actual’ experience. This can be seen as a limitation but it is felt that perceptions of services are more likely to impact upon health seeking behaviours and are what services need to be seeking to change, rather than purely focussing upon treatment outcomes. Future reviews might also benefit from providing a qualitative synthesis of the literature, utilising qualitative methodologies rather than the narrative synthesis provided by the current author.

### **Future directions for research**

There is currently a dearth of research on the mental health care experiences of black and minority ethnic groups<sup>3</sup>. The studies in this review suggest that African Caribbean communities are willing to participate in research and are interested in contributing to the development of more appropriate services. Avenues for future research include the evaluation of community services, especially assertive outreach and crisis resolution home treatment services, for African Caribbean service users. A number of statutory and voluntary agency projects are being conducted in the UK to provide more appropriate services for African Caribbean service users<sup>61</sup> yet the majority of these remain unevaluated. Little is also known about those African Caribbean people who do successfully engage with services and the context in which this might occur. A look toward more micro level interactions and the evaluation of specific engagement tools might prove to be a fruitful area for future research. Further research regarding

conceptualisation of mental illness is also important in providing more culturally sensitive services as beliefs around mental illness may be different between ethnic groups.

The majority of the research has been conducted within London and research within other cities should be encouraged. Finding more appropriate and sensitive ways of evaluating services for African Caribbean people also remains a priority for services. Generally research needs to be more sensitive to differences between ethnic groups rather than presuming equivalence, especially in large scale studies. It is also prudent to cover a range of stakeholders within research concerning the African Caribbean population<sup>58</sup>. African Caribbean people should be involved throughout the research process, including the design stages, and be encouraged and supported to undertake research within this area. A further area that has been under researched, perhaps indicating the difficulties encountered, is the experiences and perceptions of health professionals about the engagement and disengagement of African Caribbean patients and their carers. Relationships between health services and the African Caribbean population is a two way process and services can learn from the experiences of both health professionals and the communities they serve. Strategies for raising mental health awareness and perceptions of mental health services for African Caribbean communities also need to be evaluated.

## **Conclusion**

Providing a high quality health service that meets the needs of the multicultural UK population is a challenging task for service providers. National strategies such as the Delivering Race Equality document<sup>24</sup> appear to be a step in the right direction, but communities need to see that their views are being reflected in the provision of services

and that changes are occurring. Satisfaction studies conducted in isolation are not an adequate means of evaluating services for the African Caribbean population. Mental health services need to develop a greater awareness of the experiences of social exclusion experienced by African Caribbean people within the UK and place more of a consideration upon African Caribbean perceptions of services. Changing the negative perceptions held by African Caribbean communities of mental health services will be an arduous process, involving a substantial amount of effort from both services and stakeholders. It is hoped that this review will provide an easily accessible overview of the literature concerning African Caribbean perceptions of services and help to identify potential areas for future research.

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## **Section 2: Research Report**

**African Caribbean inpatients: moderating factors for length of  
hospital stay**



## **African Caribbean inpatients: moderating factors for length of hospital stay**

### **Purpose**

The present study examined ethnic differences in length of stay (LOS) in acute hospital, whilst controlling for socio-demographic and clinical characteristics known to affect LOS in the White British majority.

### **Method**

A retrospective review of patients' demographics and clinical characteristics was conducted via the electronic patient record system used by Sheffield Heath and Social Care. Data was obtained across the five inpatient wards in the city, for all adult (aged 16-65) admissions between 2004 and 2008. Chi square tests were conducted to explore characteristic differences between patient groups. ANCOVAs were conducted to examine effects upon LOS. A forced entry multiple regression was conducted to evaluate the predictive strength of specified variables.

### **Results**

Of the 3356 admissions over the 5-year period, large characteristic differences were apparent between ethnic groups. African Caribbean people experienced greatest LOS but this difference was no longer apparent when controlling for diagnosis. Deprivation and unemployment were not found to have an effect upon LOS. Being single, receiving a section and diagnosis of schizophrenia were the strongest predictors of greater LOS in the sample.

### **Conclusions**

The results suggest that ethnic disparities in LOS can be partially explained by social and clinical differences. The study emphasised the importance of recognising the heterogeneity of black and ethnic minority groups, whilst not overlooking the substantial research that has been conducted with White British patients.

## Introduction

A substantial body of evidence indicates that access to and experience of mental health services differs between white people and people from black and ethnic minority groups [1]. In particular Black African Caribbean people are the most over represented group within mental health services and results from the “count me in” census of inpatients in mental health and learning disability services in England and Wales, showed that rates of admission were three to four times the average for men from black and white/black mixed groups [2]. Research has also suggested that care pathways of black service users are problematic [3] and that they are often associated with compulsory admission [4,5] and involvement of the police [6, 7]. It has also been demonstrated that young black men’s dissatisfaction with inpatient services is directly proportional to the amount of contact they have with such services [8], and that poor engagement and mistrust of services creates a spiralling disengagement, as black patients perceive mental health services as racist and authoritarian [9]. Black African Caribbean people often delay seeking help until they are in crisis and families appear reluctant to access services because they fear the outcome for the person they care for [10]. One recent multi centre study showed that African Caribbean families were more likely to access help through the police rather than via the medical system [11].

In 2002 the Sainsbury’s Centre for Mental Health produced an important document called ‘breaking the circles of fear’ [12], which reported the results of a two year study focussing upon mental health services received by the African Caribbean population. This study found that there were circles of fear that stopped black people from engaging with services. These were due to a number of reasons including mainstream services being seen as inhumane, little primary care involvement, stigma of mental illness, lack of carer involvement, problematic pathways to care, and lack of community based crisis

care. Professionals themselves were also found to be fearful of young black men and of being criticised in their clinical practice, or of not knowing how to relate to this client group. These fears tend to negatively impact upon interactions between black people and mental health services [10]. For service users the fear of an adverse outcome may lead to reluctance in seeking help, and inappropriate responses from services may lead to further delays in accessing treatment and affect the willingness of service users to seek help in the future.

In response to these apparent inequalities the Department of Health launched two policy frameworks the first of which was “Inside Outside” in 2003 [13]. This document was developed over two years and supported previous findings that Black African Caribbean men had poor access to mental health services. Services were also seen to place an overemphasis on institutional and coercive models of care, where professional and organisational requirements were given priority over individual needs. The Delivering Race Equality in Mental Health Care document (2005) shortly followed [14], which is a five year action plan for tackling discrimination in the NHS and local authority mental health services. In this document three main priorities were identified as the building blocks for service change; more appropriate and responsive services, better community engagement, and better information. Since this document further research has been conducted in order to identify the financial benefits of bringing about better mental health services for Black African Caribbean people [15]. As a result of the legislative framework for race equality a number of changes have been occurring within services to increase cultural competency, promote diversity in recruitment strategy and design and develop services that are more culturally valid across groups and specific populations.

## **Characteristics of ethnic groups & factors moderating rates of admission**

In order to improve mental health services for the African Caribbean population in the UK, there needs to be a better understanding of the disparities between use of psychiatric inpatient services by African Caribbean people and other ethnic groups. In the related literature concerning elevated levels of psychosis in the African Caribbean population, it is felt that the heterogeneity of ethnic groups and limitations of ethnic group definitions are not fully appreciated [9]. Several papers have identified potential hypotheses which might account for these discrepancies [9, 16]. These authors have tended to describe their hypotheses within a bio-psychosocial model, ranging from genetic factors, substance misuse, and migration effects, to population density, social disadvantage and racism. Within the literature social hypotheses, such as high levels of unemployment and poor social support, have been subject to much untested speculation [16]. However some research has suggested that excesses of neuroses in the African Caribbean population can be explained at least partially in terms of socioeconomic disadvantage [17].

The research concerning elevated levels of admission in ethnic groups is often conflicting [4] and it has been proposed that these differences might be better explained in terms of factors other than ethnicity [18]. A recent review of ethnic variations in use of specialist mental health services [1] provided strong evidence for disparities between rates of admission for black and ethnic minority groups. Two studies focussing upon rates of compulsory admission for cases of psychosis [4,19] found that independent of several socio-demographic factors African Caribbean patients were more likely to be detained under the Mental Health Act (1983) than the white population. Although some of the studies identified by Bhui et al [1] attempted to adjust for socio-demographic factors, such as age, gender and socio-demographic status, the authors indicate that

further research is needed to explore explanations for these variations rather than ascribing all differences to ethnic origins.

Although a substantial body of research has identified discrepancies between rates of admission for black and white populations, research concerning length of acute inpatient stay (LOS) for different ethnic groups is scarce. One study that has evaluated LOS between ethnic groups found the average LOS for African Caribbean people to be almost double that of white patients [20]; however significant correlations were found between ethnicity and diagnosis, status on admission and illicit drug use. The authors also did not control for alternative socio-demographic factors that might have accounted for the discrepancies in LOS. Many factors are known to influence LOS in the general population such as diagnosis [21, 22, 23], living situation [24], socioeconomic status [25] and age [26, 27] but studies evaluating ethnic differences in LOS have done so independently from these factors. Most of the research concerning rates of admission has also focussed upon black and white ethnic comparisons; however South Asian patients have been found to have shorter admission rates than other ethnic groups [28] and are less likely to be admitted than black patients [29].

Inpatient stay is usually the most expensive aspect of patient care and managing the cost of healthcare requires better prediction of those clients most likely to have protracted LOS [21]. It is currently unclear whether differences exist in LOS for different patient groups and whether disparities are better predicted by characteristics other than ethnicity. This is a highly pertinent area of research due to the current controversy surrounding elevated levels of admission for African Caribbean people in the UK, with one of the most common explanations being that of institutional racism (for overview see [30]).

## **Aim**

The aim of this study was to evaluate whether any differences exist in LOS for African Caribbean patients compared to other ethnic groups admitted to inpatient services. The study, which was conducted within a large northern city in the UK, also sought to identify any ethnic differences in socio-demographic and clinical characteristics. A particular focus was given to comparing rates of unemployment, single status, diagnosis of schizophrenia, compulsory detention and levels of deprivation for African Caribbean inpatients, the white majority and other BME (black and ethnic minority) groups. This study also aimed to establish whether any ethnic differences in LOS remained when controlling for these factors. Admission rates were also compared between ethnic groups as few studies of this type have been conducted outside of the London region, or across ethnic groups.

## **Method**

### **Research Questions**

An exploratory, comparative study was conducted in order to answer the following research questions:

- 1) Are admission rates locally higher for African Caribbean people than for other ethnic groups?
- 2) Are there characteristic differences between African Caribbean patients admitted to acute inpatient services, and patients admitted from other ethnic backgrounds?
- 3) Do any differences in length of hospital stay for ethnic groups remain when controlling for other socio-demographic factors or clinical characteristics?
- 4) What factors are most important when predicting length of inpatient stay (LOS)?

## **Design**

In order to look at the characteristics of different ethnic groups who have been admitted to inpatient services, a between groups comparative analysis was conducted. This comparison included a series of patient demographics, diagnosis given at discharge, and duration of admission. LOS was evaluated in terms of total duration of each episode within acute inpatient services. Statistical analysis was also carried out to look for the best predictors for LOS and to explore any interactions between these variables and their impact upon LOS for people from different ethnic groups. Ethical (Ref08/H1302/30) and Research and Governance approval was received prior to conducting the study (Appendix 4-6).

## **Participants**

Data was obtained from the electronic patient record system used by Sheffield Health and Social Care. This foundation trust is the main provider of a range of specialist health and social care services to individuals and their carers or families within Sheffield. The city is the fourth largest within England with a population of approximately 530,000. It is an ethnically diverse city, with over 10% of its population from black or ethnic minority groups. The largest of those groups is the Pakistani community, but Sheffield also has large Caribbean, Indian, Bangladeshi, Somali, Yemeni and Chinese communities. The city has two Universities and a large student population (approximately 50,000). People of working age make up approximately 64 percent of the city's population, whilst those of retirement age form around 18 percent [31]. A more detailed account of the population is given within the sample characteristics section of the report.

Acute care is provided by Sheffield Health and Social Care, primarily through four inpatient wards and one intensive treatment ward (PICU). The computerised data obtained for the study was limited to:

- All adult (16-65 years of age) inpatient episodes, across the five main acute wards, over a five year period (discharged between 1<sup>st</sup> January 2004 & 31<sup>st</sup> December 2008).
- Beds used by learning disability and substance misuse services were excluded.

A five year period was proposed as it was felt that this gave the most recent and thus valid admission rates within the region. It was also felt that a five year period would provide sufficient power whilst not being too large a time period, which might affect the relevance and generalisability of results. Prior to this period there had also been a significant change locally in mental health services with the implementation of a crisis resolution home treatment service (CRHT). This team and numerous others have been developed nationally as part of the NHS Plan [32] and subsequent Policy Implementation Guide [33]. The main aim of these teams is to reduce the need for psychiatric beds, to offer home treatment where appropriate and to reduce LOS through facilitating early discharge from hospital [34]. CRHT teams within the UK have since been associated with reductions in admissions [35, 36] and similar results were thought to have occurred within the local area. The inclusion of previous data may have affected the stability of the data set, causing subsequent problems to analysis and the potential for the implementation of the crisis team to become a confounding variable. Discharge date was chosen as the parameter for inclusion rather than admission date, as it was felt that the latter would include a large number of clients in the data set who would still be



admitted. This data could not have been used in the analysis and would have resulted in a partial data set.

## **Measures**

For each inpatient episode information was obtained, where available for:

Length of hospital stay (LOS)

Diagnosis on discharge

Ethnicity

Gender

Age

Marital status

Employment status

Index of Multiple Deprivation (2007)

Admission status (informal/compulsory)

Use of sections throughout admission

These variables were decided upon primarily from the background literature, which identified them as key factors associated with mental illness and rates of inpatient admission. The choice of variables was also influenced by the availability of the data as the above information was routinely documented for patients who are admitted to inpatient services, thus reducing the likelihood of missing data. LOS was measured across the entire episode of hospital stay, including periods of leave. Diagnosis was recorded at discharge and two Consultant Psychiatrists with experience of working within Acute Mental Health Services were consulted in order to condense these into more manageable and meaningful categories for data analysis.

Ethnicity was categorised using 'Census' categories but the author also differentiated between Somali and other African patients to reflect the large Somali population within Sheffield. It should also be noted that throughout the report the term 'black and ethnic minority or BME' is used to refer to all non-White British patients, including white Irish and other white minority groups. The Index of Multiple Deprivation (2007) [37] combines a number of indicators, covering a range of economic, social and housing issues, into a single deprivation score for each small area in England. The higher the score the more deprived the area. As with the 2004 Indices, the Indices of Deprivation 2007 has been produced at Lower Super Output Area level and this is used by local health departments and researchers to monitor socioeconomic inequalities in health. These scores were calculated using the postcodes obtained from each patient on admission to inpatient services.

## **Procedure**

The data set was extracted from the electronic patient record system used by Sheffield Health and Social Care. This data took the form of an excel database, which was password protected and sent to a secure NHS server. Once obtained the data set was anonymised, substituting client ID numbers with a random series of research ID numbers, which ensured anonymity of clients whilst also enabling the identification of repeated admissions for particular patients. The data was then coded and transposed to a Statistical Package for the Social Sciences (SPSS) file ready to undergo statistical analysis.

## **Data Analysis**

The data was analysed using Statistical Package for the Social Sciences (SPSS V.16.0.1). Two proportion  $z$ -tests (38) were conducted to identify any socio-

demographic differences between the sample and the population and a *t*-test was used to evaluate differences between sample and population for deprivation scores. Non parametric chi square tests were conducted to identify significant differences between ethnic groups for each of the categorical variables. A Bonferroni correction was applied for all multiple comparisons but a less stringent level of significance was utilised for the hypothesised comparisons between African Caribbean patients and the white majority ( $p=.05$ ). Separate one-way between groups Analysis of variance's (ANOVAs) were also conducted to evaluate differences between ethnic groups in age, level of deprivation and rates of admission. Due to the large nature of the sample and as Levene tests indicated that equal variance could not be assumed, Games Howell post hoc procedures were utilised.

Three-way between-groups Analyses of Covariance's (ANCOVAs) were conducted to compare LOS for each ethnic group and to identify any interactions with other variables that might have had a main effect. A Log transformation was used for the LOS variable due to its highly skewed distribution. Age and deprivation scores were inputted into the ANCOVAs in order to establish their potential effect as a covariate for LOS. Sidak post hoc procedures were utilised for pair wise comparisons and simple effects analysis was used to break down any interactions. A 'forced entry' multiple regression was also conducted to identify the variables that best predicted LOS within the sample.

### **Power Analysis**

A power analysis was conducted using G Power software, to estimate the sample size that would be required to bring about a medium effect size ( $F=0.25$ ) for the ANCOVAs and multiple regression carried out in the study. A three-way between groups ANCOVA utilising one covariate and incorporating the factors ethnicity, diagnosis and admission

status, resulted in 145 groups for the analysis. Based on this number of groups, with  $\alpha=0.05$ ,  $\beta = 0.80$ , and  $F=0.25$ , a sample size of 1160 patients was necessary to identify a significant effect i.e. eight in each group. Based upon similar effect sizes a three-way ANCOVA, utilising two covariates and ethnicity, employment status and gender as independent variables a sample size of at least 876 (12 in each of the 72 groups) was necessary in order to indicate a medium effect. A power analysis for the use of a multiple regression using 6 predictors again with  $\alpha=0.05$ ,  $\beta= 0.80$ , and  $F=0.15$  showed that a sample size of 98 would be sufficient to indicate any significant effects. The overall sample ( $N=3556$ ) was more than adequate to provide the power necessary to identify any effects using these statistical tests.

## **Sample characteristics**

### *Ethnicity and gender*

Table 1 provides a comparison between the ethnicity and gender of the 1930 patients admitted over the period and estimates obtained for the general population of Sheffield [39]. The sample consisted of a greater proportion of males ( $n=1126$ , 58%) than within the general population ( $N=250630$ , 49%);  $z=10.9$ ,  $SD=.008$ ,  $p<.001$ . Ethnicity was obtained for all patients except one who had refused to disclose his ethnicity to staff during admission. White British patients formed the majority ethnic group within the sample ( $n=1467$ , 76%). Black or Black British African patients ( $n=93$ , 5%) were the second largest group within the sample, followed by Pakistani patients ( $n=90$ , 5%) and Black or Black British Caribbean patients ( $n=63$ , 3%). Indian ( $n=9$ , 0.5%), Bangladeshi ( $n=17$ , 1%) and Asian other ( $n=26$ , 1%) categories were combined for the purpose of analysis; as were all patients of dual heritage ( $n=38$ , 2%).

**Table 1:** Ethnicity and gender

	Sample (n)	%	Population (N)	%	z score
<b>Total</b>	<b>1930</b>	<b>100</b>	<b>513234</b>	<b>100</b>	
<b>Gender</b>	<b>1930</b>	<b>100</b>	<b>513234</b>	<b>100</b>	
male	1124	58	250630	49	10.9**
female	806	42	262604	51	-10.9**
<b>Ethnicity</b>	<b>1929</b>	<b>100</b>	<b>513234</b>	<b>100</b>	
White British	1463	76	457728	89	-24.9**
White Irish	26	1	3337	1	5.0**
White other	30	2	7152	1	0.8
Black or Black British African	93	5	3294	.6	30.3
Black or Black British Caribbean	63	3	5171	1	13.1
Black or Black British other	17	1	677	.1	12**
Pakistani	90	5	15844	3	5.3**
Bangladeshi	17	1	1910	.4	4.8**
Indian	9	.5	3030	1	-0.9
Other Asian	26	1	2598	.5	6.9**
White and Black Caribbean	13	1	3704	1	-0.3
White and Black African	5	.3	711	.1	1.9*
White and Asian	11	1	2085	.4	1.5
Other dual heritage	9	.5	1728	.3	1.3
Chinese	12	1	2201	.4	1.7*
Other ethnic group	48	3	2064	.4	17.2**
BME (non-White British)	469	24	55506	11	-24.8**

\*  $p<.05$ ; \*\*  $p<.0001$

*Age, employment and marital status*

Table 2 shows the age, employment status and marital status of patients obtained for each admission (n=3356). These characteristics are displayed for each episode rather than for each patient, because it is likely that these variables changed between repeated admissions and may have had an effect on LOS. The main analysis was also concerned with the impact of patient characteristics upon LOS for each inpatient episode, rather than arbitrarily choosing the data obtained for a particular admission during the time period. In terms of marital status, a greater proportion of patients were identified as

single (59%) than would have been expected from population estimates (34%);  $z=30.4$ .  $SD=.008$ ,  $p<.001$ .

**Table 2:** Age, employment, marital status on admission

	Sample ( <i>n</i> )	%	Population ( <i>N</i> )	%	z score
<b>Total</b>	<b>3356</b>	<b>100</b>	<b>513234</b>	<b>100</b>	
<b>Marital status on admission<sup>+</sup></b>	<b>3230</b>	<b>96</b>	<b>415265</b>	<b>81</b>	
single	1903	59	139603	34	30.4**
married/with partner	751	23	197754	48	- 27.7**
separated/divorced	503	16	40329	10	11.2**
widowed	73	2	37579	9	- 13.4**
<b>Employment on admission<sup>++</sup></b>	<b>2979</b>	<b>89</b>	<b>374173</b>	<b>73</b>	
unemployed	1815	61	15637	4	154.8**
employed	440	14	208251	56	- 44.9**
student	101	3	42565	11	- 13.7**
other	623	21	107720	29	- 9.5**
<b>AGE on admission (16-65)</b>	<b>3356</b>	<b>100</b>	<b>336042</b>	<b>66</b>	
16-30	984	29	111165	33	7.9**
31-40	967	29	77517	23	8.2**
41-50	811	24	62666	19	- 10**
51-65	594	18	84694	25	- 4.6**

\* $p<.05$ ; \*\*  $p<.0001$ ; <sup>+</sup> population data refers to people aged 16 and over; <sup>++</sup> population data refers to people aged 16-74.

Highly significant differences were found between the sample and population proportions for the categorised ages. In particular there appeared to be a larger proportion of patients aged between 30 and 50 (53%) than within the population (42%):  $z=13.2$ ,  $SD=.009$ ,  $p<.001$ . No significant differences were apparent though, between the mean age of the sample ( $M=38.5$ ) and that of the population ( $M=38.8$ ),  $t(3555)=1.13$ ,  $SD=12.143$ ,  $p=.13$ . The largest differences between the sample and population socio-demographics were those observed in employment status. There were substantially higher rates of unemployment within the sample (61%) than within the population (4%):  $z=154.8$ ,  $SD=.004$ ,  $p<.001$  and a smaller proportion of patients were identified as

students ( $n=101$ , 3%) than would be expected from population estimates ( $N=42565$ , 11%);  $z= -13.7$ ,  $SD=.006$ ,  $p<.001$ . On average participants admitted to inpatient services had greater deprivation scores ( $M=36.78$ ) than within the general population of Sheffield ( $M=27.84$ ). This difference was highly significant  $t(3136)= 26.672$ ,  $SD= 18.744$ ,  $p<.001$ .

### *Clinical characteristics*

Table 3 provides details of the clinical characteristics of the sample. The majority of the sample had only one admission ( $n=1245$ , 65%). A further 353 patients (18%) had two admissions over the time period and 169 patients (9%) had four or more. The average LOS for the sample was 51 days and ranged from 1 hour to 881 days. The median LOS was 27 days and 2830 of the inpatients (79%) were discharged within 3 months. LOS was highly skewed and was therefore transformed to provide a normal distribution for the purpose of data analysis. The three longest inpatient episodes remained as outliers following the transformation, but were not removed from the dataset as the effect of these few scores on the analysis was thought to be minimal considering the size of the sample.

Approximately a third of all the inpatient admissions were compulsory ( $n=1162$ , 35%) and over half involved the use of a section at some point throughout the period of admission ( $n=1936$ , 58%). The average frequency of admission over the five year period was 1.74 ( $SD=1.441$ ). 1245 patients (65%) had one admission and 91% had three or less admissions over the five year period. The largest diagnostic group was those patients given a primary diagnosis of schizophrenia or schizophreniform disorder ( $n=1214$ , 36%). Mood disorders made up the second largest diagnostic category, split equally between diagnoses of depression ( $n=544$ , 16%) and bipolar or mania ( $n=483$ ,

14%). Smaller categories such as organic, physical illness and mental retardation were categorised as ‘other’ for the purposes of data analysis. A detailed breakdown of these diagnostic categories is given in Appendix 7.

**Table 3: Clinical characteristics**

	<i>n</i>	%		<i>n</i>	%
<b>Diagnosis on discharge</b>	<b>3351</b>	<b>100</b>	<b>Length of stay</b>	<b>3356</b>	<b>100</b>
schizophreniform	1214	36	1-7 days	611	17
depression	544	16	8-30 days	1184	33
bipolar/Mania	483	14	1-3 months	1035	29
due to psychoactive substance	303	9	3-6 months	353	10
personality disorder	291	9	over 6 months	173	5
general examination	211	6			
neurotic/somatoform	195	6			
other	110	3			
<b>Section ever received during episode</b>	<b>3356</b>	<b>100</b>	<b>Number of admissions over 5 year period</b>	<b>1930</b>	<b>100</b>
yes	1936	58	1 admission	1245	64
no	1420	42	2 admissions	353	18
			3 admissions	163	8
<b>Admission Status</b>	<b>3356</b>	<b>100</b>	4 admissions	74	4
compulsory	1162	35	5+ admissions	95	5
informal	2194	65			

**Results**

**Rates of admission**

The first aim of the study was to establish whether admission rates were higher for African Caribbean people than other ethnic groups. Over the five year period there were 3356 inpatient episodes across each of the five inpatient wards, 1423 of which were readmissions. The proportion of African Caribbean people admitted to inpatient services in the city ( $n=63$ , 3%) was three times the proportion of African Caribbean people within the population of Sheffield ( $N=3294$ , 1%);  $z=17$ ,  $SD=.002$ ,  $p<.001$ . This was one of the largest differences observed in rates of admission; however an even greater



proportion of Black or Black British African patients were admitted to inpatient services ( $n=93$ , 5%) than would have been expected within the population ( $N=3294$ , 0.6%);  $z=30.6$ ,  $SD=.001$ ,  $p<.001$ . Overall there was a highly significant difference between the proportion of Black and ethnic minority (BME) patients within the sample ( $n=465$ , 24%) and within the population of Sheffield ( $N=55506$ , 11%)  $z=24.8$ ,  $SD=.005$ ,  $p=<.001$ .

### **Ethnic differences in socio-demographic and clinical characteristics**

The second aim of the study was to establish whether African Caribbean people admitted to inpatient services, differ from other ethnic groups in terms of socio-demographic and clinical characteristics. Table 4 provides a comparison by ethnic group for each of the categorical variables obtained in the study. Significant differences between the observed and expected frequencies for each cell were also calculated. A full table of the  $z$  values and observed and expected frequencies are given in Appendix 8. 15% of the cells contained frequencies of less than five. Due to the number of chi square tests of independence conducted a Bonferroni correction was utilised based upon the 189 cells, which indicated a significance level of  $p<.000265$ . Standard significance levels ( $p<.05$ ) were utilised for hypothesised differences between African Caribbean and White British or BME patients.

#### *Ethnic differences in gender and diagnosis*

There was no association between the gender of White British and African Caribbean patients,  $\chi^2(1, 2664) = 0.832$ ,  $p=.36$ . There was also no difference between the proportions of males or females within African Caribbean and other BME groups,  $\chi^2(1, 823) = 0.499$ ,  $p=.48$ . A significant difference was apparent between the diagnoses received by African Caribbean patients and white patients,  $\chi^2(7, 2661) = 78.58$ .

$p < .0001$ , Cramér's  $\phi = .17$ . Higher diagnosis rates of schizophrenia within the African Caribbean group ( $n=88$ , 67%),  $z=5.8$ ,  $p < .0001$ , and lower than expected rates within the White British group ( $n=799$ , 31%),  $z=-3.9$ ,  $p < .0001$  appeared to account for this large effect. African Caribbean patients also had lower than expected diagnoses of depression (8%),  $z=-2.5$ ,  $p=.006$  and the lowest proportion of substance related disorders (2%),  $z=-2.6$ ,  $p=.004$ . Diagnosis proportions were also found to vary significantly between African Caribbean patients and patients from other BME groups,  $\chi^2(7, 821) = 32.07$ ,  $p < .0001$ , Cramér's  $\phi = .2$ . Although African Caribbean patients had the highest levels of diagnosis of schizophrenia across all ethnic groups, high levels were also observed for patients of Pakistani origin ( $n=92$ , 54%),  $z=3.8$ ,  $p < .0001$ . Higher than expected diagnoses of neurotic or somatoform disorders were also observed for African ( $n=11$ , 18%),  $z=3.9$ ,  $p < .0001$  and dual heritage patients ( $n=13$ , 16%),  $z=3.7$ ,  $p < .0001$ .

#### *Ethnic differences in marital status and employment status*

A significant relationship was found between the marital status of African Caribbean and White British patients,  $\chi^2(2, 2580) = 28.45$ ,  $p < .0001$ , Cramér's  $\phi = .11$ . Marital status was also found to vary significantly between African Caribbean and other BME groups,  $\chi^2(2, 782) = 24.41$ ,  $p < .0001$ , Cramér's  $\phi = .18$ . African Caribbean patients had the highest proportions of single status across all ethnic groups (80%),  $z=3.1$ ,  $p < .0009$  and the lowest proportions of patients who were married or with a partner (7%),  $z=-3.9$ ,  $p < .0001$ . Pakistani patients on the other hand had the highest proportions of patients who were married or within a relationship (48%),  $z=6.8$ ,  $p < .0001$ .

A significant association was also found between employment status and whether patients were White British or African Caribbean,  $\chi^2(3, 2403) = 8.96$ ,  $p=.03$ , Cramér's  $\phi = .06$ . Employment status also varied between African Caribbean and other BME

**Table 4: Comparison of socio-demographics and clinical characteristics by ethnic group**

	White British		Black Caribbean		Black African		Somali		British Asian – Pakistani		British Asian - other		White other		Dual heritage		Other		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Gender</b>	<b>2532</b>	<b>75</b>	<b>132</b>	<b>4</b>	<b>62</b>	<b>2</b>	<b>101</b>	<b>3</b>	<b>171</b>	<b>5</b>	<b>80</b>	<b>2</b>	<b>81</b>	<b>2</b>	<b>82</b>	<b>2</b>	<b>114</b>	<b>3</b>	<b>3355</b>	<b>100</b>
female	1119*	44*	53	40	23	37	29*	29*	77	45	22*	28*	40	49	26	32	38	33	1427	44
male	1413*	56*	79	60	39	63	72*	71*	94	55	58*	72*	41	51	56*	68*	76*	67*	1928	56
<b>Diagnosis</b>	<b>2529</b>	<b>75</b>	<b>132</b>	<b>4</b>	<b>62</b>	<b>2</b>	<b>100</b>	<b>3</b>	<b>171</b>	<b>5</b>	<b>80</b>	<b>2</b>	<b>81</b>	<b>2</b>	<b>82</b>	<b>2</b>	<b>113</b>	<b>3</b>	<b>3350</b>	<b>100</b>
schizophreniform	799*	31*	88*	67*	25	40	54	54	92*	54*	33	41	23	28	33	40	67*	59*	1214	36
depressed mood	460	18	10	8	5	8	13	13	13	8	11	14	9	11	8	10	14	12	543	16
bipolar/mania	369	15	19	14	12	19	9	9	32	19	18	23	18	22	1	1	5	4	483	14
personality disorder	264	10	4	3	0	0	0	0	2	1	1	1	4	5	14	17	2	2	291	9
substance related	252	10	3	2	2	3	10	10	10	6	3	4	9	11	8	10	6	5	303	9
neurotic/somatoform	142	6	1	1	11*	18*	4	4	8	5	8	10	6	7	13*	16*	2	2	195	6
general examination	148	6	2	2	6	10	10	10	12	7	6	8	8	10	4	5	15	13	211	6
other	95	4	5	4	1	2	0	0	2	1	0	0	4	5	1	1	2	2	110	3
<b>Marital status</b>	<b>2448</b>	<b>76</b>	<b>132</b>	<b>4</b>	<b>55</b>	<b>2</b>	<b>96</b>	<b>3</b>	<b>170</b>	<b>5</b>	<b>69</b>	<b>2</b>	<b>72</b>	<b>2</b>	<b>82</b>	<b>3</b>	<b>106</b>	<b>3</b>	<b>3230</b>	<b>100</b>
single	1395	57	105	80	36	65	72	75	78	46	48	70	39	54	59	72	71	67	1903	59
married/with partner	568	23	9*	7*	10	18	16	17	82*	48*	19	28	18	25	8	10	21	20	751	23
other	485	20	18	14	9	16	8	8	10*	6*	2	3	15	21	15	18	14	13	576	18
<b>Employment status</b>	<b>2280</b>	<b>77</b>	<b>123</b>	<b>4</b>	<b>47</b>	<b>2</b>	<b>90</b>	<b>3</b>	<b>151</b>	<b>5</b>	<b>58</b>	<b>2</b>	<b>66</b>	<b>2</b>	<b>78</b>	<b>3</b>	<b>85</b>	<b>3</b>	<b>2978</b>	<b>100</b>
unemployed	1345	59	87	71	25	53	65	72	116	77	32	55	39	59	54	69	51	60	1814	61
employed	346	16	19	15	9	19	3	3	11	7	4	7	14	21	8	10	8	9	440	15
student	61	3	1	1	3	6	7	8	6	4	7*	12*	5	8	3	4	8	9	101	3
other	510	22	16	13	10	21	15	17	18	12	15	26	8	12	13	17	18	21	623	21
<b>Admission status</b>	<b>2532</b>	<b>75</b>	<b>132</b>	<b>4</b>	<b>62</b>	<b>2</b>	<b>101</b>	<b>3</b>	<b>171</b>	<b>5</b>	<b>80</b>	<b>2</b>	<b>81</b>	<b>2</b>	<b>82</b>	<b>2</b>	<b>114</b>	<b>3</b>	<b>3355</b>	<b>100</b>
informal	1784*	70*	59	45	32	52	47	47	86	50	37	46	46	57	52	63	51	45	2194	65
compulsory	748*	30*	73	55	30	48	54	53	85	50	43	54	35	43	30	37	63	55	1161	35
<b>Section ever</b>	<b>2532</b>	<b>75</b>	<b>132</b>	<b>4</b>	<b>62</b>	<b>2</b>	<b>101</b>	<b>3</b>	<b>171</b>	<b>5</b>	<b>80</b>	<b>2</b>	<b>81</b>	<b>2</b>	<b>82</b>	<b>2</b>	<b>114</b>	<b>3</b>	<b>3355</b>	<b>100</b>
no	1595	63	53	40*	28	45	35*	35*	70*	41*	29	36	42	52	42	51	42	37*	1936	58
yes	937	37	79	60*	34	55	66*	65*	101*	59*	51*	64*	39	48	40	49	72	63*	1419	42

\* significant at  $p = .000265$  ( $z > 3.46$ )

groups,  $\chi^2(3, 698) = 10.63, p=.016$ , Cramér's  $\phi = .12$ . Although African Caribbean patients had high levels of unemployment (71%) the difference between expected proportions was of low level significance,  $z=1.4, p=.08$ . Somali patients in particular had the lowest rates of employment (3%) followed by Pakistani patients (7%); however these only reached a significance level of  $p<.01$  and were not significant at the more stringent level set by the Bonferroni correction. Proportions of students were highest within the 'Asian other' group (12%) and were found to differ significantly from expected,  $z=3.5, p=.0002$ .

#### *Ethnic differences in admission status and use of section*

Chi-square tests of independence also suggested a significant association between ethnicity and admission status,  $\chi^2(8, 2664) = 129.3, p<.0001, \phi=.2$ ; and ethnicity and the use of a section during admission,  $\chi^2(8, 2664) = 129.2, p<.0001, \phi=.2$ . A significantly higher proportion of African Caribbean patients were admitted under section (55%) than white patients (30%),  $\chi^2(1, 2664) = 27.75, p<.0001, \phi=.10$ , and related to this a higher proportion of African Caribbean people were detained during their stay in hospital (60%:37%),  $\chi^2(1, 2664) = 39.05, p<.0001, \phi=.12$ . Although African Caribbean patients had the highest proportions of compulsory admissions and higher than expected levels of detention,  $z=4.9, p<.0001$ , no significant differences were apparent between the proportions of African Caribbean patients and other BME groups who were admitted under section,  $\chi^2(1, 823) = 0.107, p=.74$  or detained during their stay in hospital,  $\chi^2(1, 823) = 1.65, p=.2$ . Somali patients had the highest levels of detention (65%),  $z=5.2, p<.0001$ , followed by 'Asian other' (non-Pakistani Asian) patients (64%),  $z=4.4, p<.0001$ . All BME groups had higher levels of compulsory admission and rates of detention than White British patients.

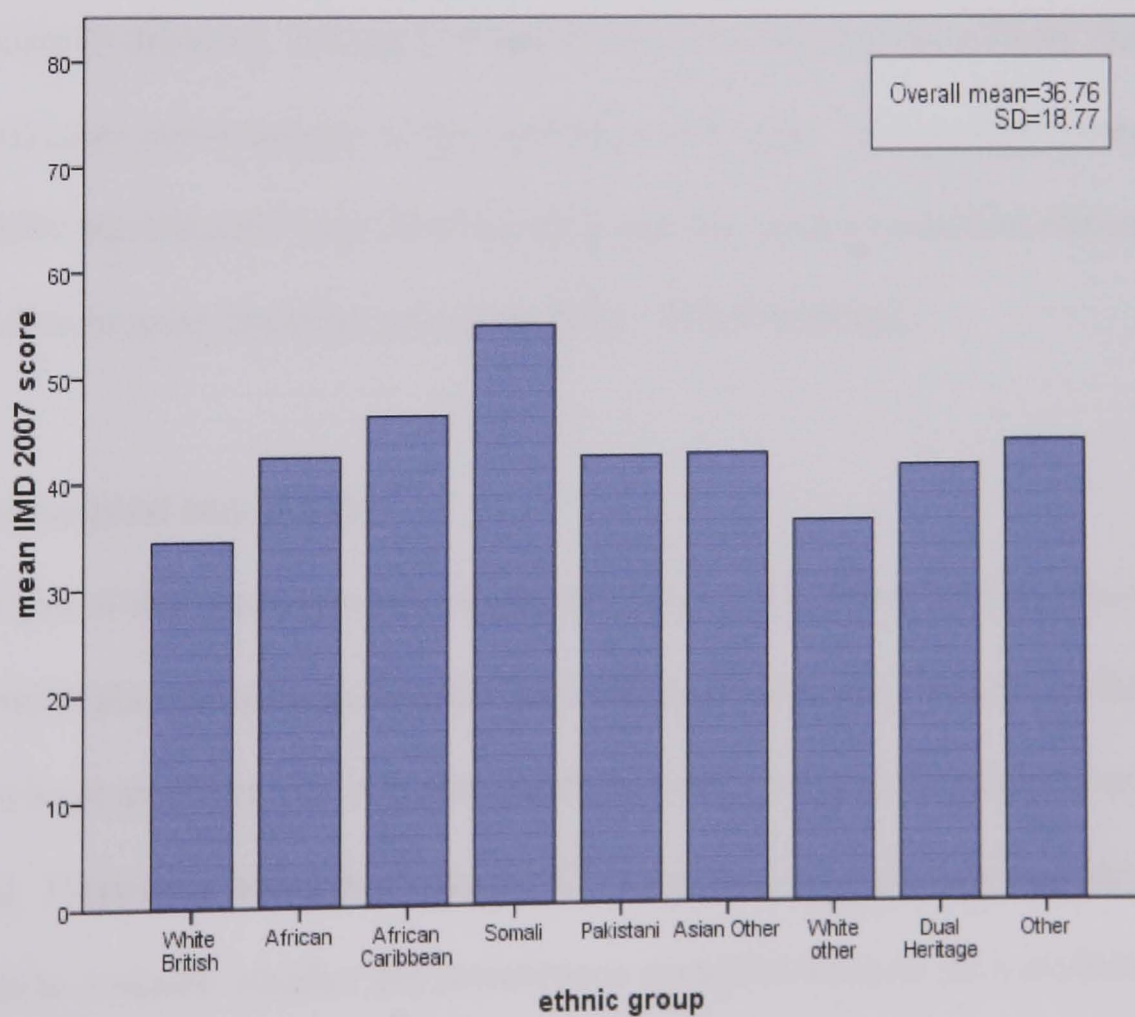
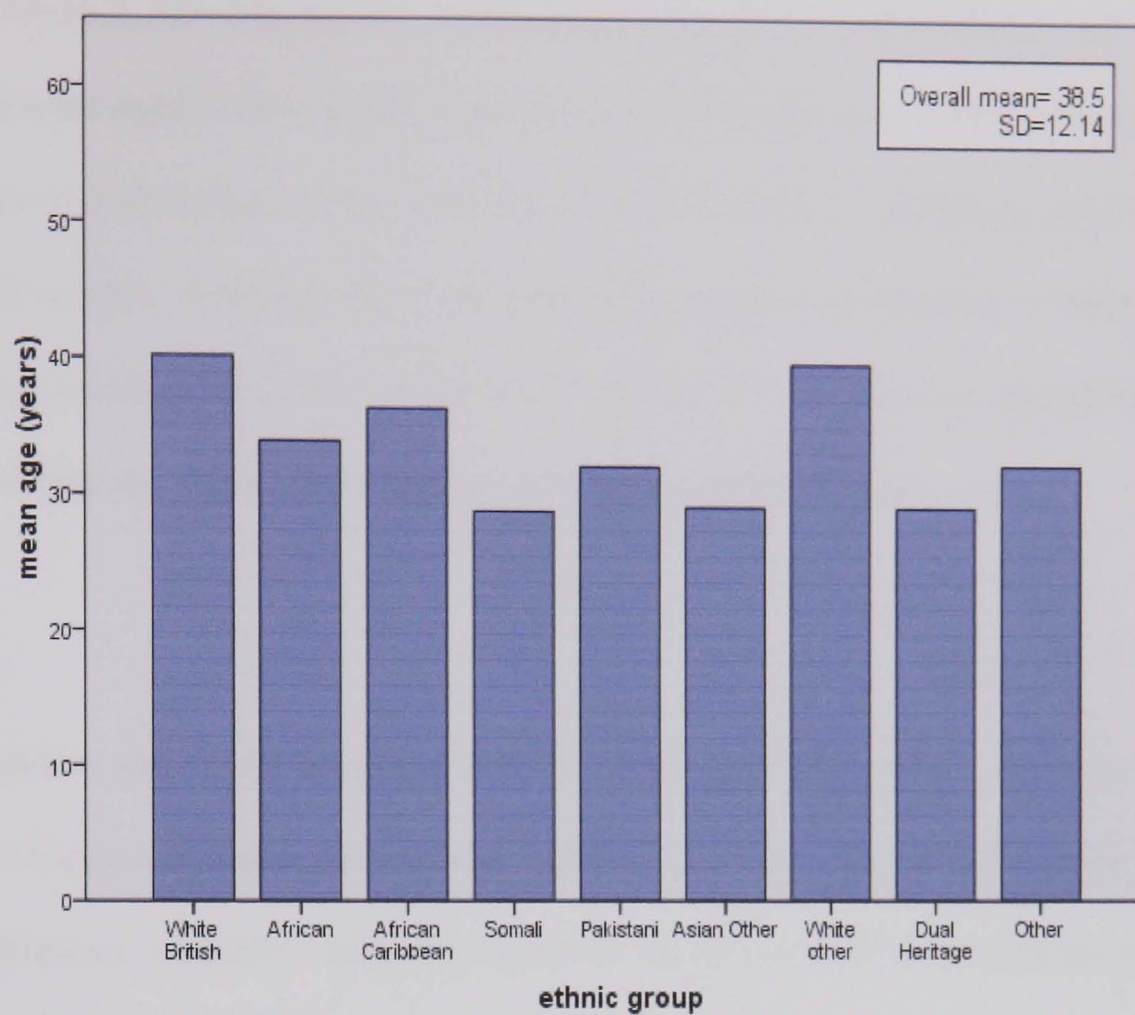
*Ethnic differences in age, deprivation and number of admissions*

One-way between ANOVAs were conducted to evaluate differences between ethnic groups in age, level of deprivation and number of admissions over the period. Means and standard deviations for these variables are given in table 5. Figure 1 also provides a graphic comparison of mean age and IMD scores for each ethnic group. There was a significant, albeit small effect of ethnicity on age,  $F(8, 3346) = 40.46, p<.001, \eta^2=.06$ . Games Howell procedures suggested that African Caribbean patients were significantly younger ( $M=36.4, SD=9.2$ ) than white patients ( $M=40.2, SD=12.1$ ),  $p<.01$ . No significant differences were apparent between mean ages of African Caribbean and Black African ( $M=34, SD=8.3$ ) or white non-British patients ( $M=39.7, SD=13.6$ ). The mean age of African Caribbean patients was significantly larger than for all the other BME groups,  $p<.001$ , including Somali patients ( $M=28.9, SD=9$ ) who were the youngest ethnic group within the sample.

**Table 5:** Descriptive statistics for age, deprivation and number of admissions by ethnic group

	Age			IMD Score			Number of admissions		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
<b>Ethnicity</b>	<b>3355</b>	<b>38.35</b>	<b>12.14</b>	<b>3136</b>	<b>36.76</b>	<b>18.77</b>	<b>1929</b>	<b>1.74</b>	<b>1.44</b>
White British	2532	40.17	12.1	2378	34.44	18.54	1464	1.73	1.44
Black Caribbean	132	36.39	9.19	119	46.29	15.69	61	2.18	1.92
Black African	62	33.97	8.31	56	42.43	15.48	41	1.51	1.10
Somali	101	28.86	8.99	95	54.88	15.64	52	1.94	1.73
Pakistani	171	32.19	11.04	168	42.39	15.14	90	1.9	1.43
Asian other	80	29.2	8.52	72	42.55	17.79	52	1.54	1.24
White other	81	39.72	13.61	72	36.19	20.01	56	1.45	0.85
Dual heritage	82	29.16	8.53	80	41.46	19.66	38	2.16	1.76
Other	114	32.27	9.27	96	43.73	18.05	75	1.52	1.02

There was also a significant effect of ethnicity on measure of deprivation,  $F(8, 127)=26.79, p<.001, \eta^2=.09$ . Post hoc comparisons using Games Howell tests indicated that the mean IMD score for African Caribbean patients ( $M=46.3, SD=15.7$ ) was



**Figure 1:** Mean age and deprivation scores (IMD 2007) for each ethnic group

significantly greater than for White British ( $M=34.4$ ,  $SD=18.5$ ) or white non-British patients ( $M=36.2$ ,  $SD=20$ ),  $p<.001$ . Mean IMD scores for Somali patients ( $M=54.9$ ,  $SD=15.6$ ) were significantly higher than all other ethnic groups,  $p<.001$ . No significant differences in deprivation scores were found between African Caribbean patients and all other BME groups. Although there was a significant effect of ethnicity on rates of admission over the period,  $F(6, 1920) = 2.17$ ,  $p<.05$ ,  $\eta^2=.01$ , post hoc comparisons failed to reveal any significant differences between ethnic groups.

### *Summary*

Taken together, the results suggest that there were large characteristic differences between African Caribbean patients and other ethnic groups within the sample. The main differences were that a greater proportion of African Caribbean patients received a primary diagnosis of schizophrenia and were more likely than White British patients to be compulsorily detained. African Caribbean patients were also more likely than the majority of other ethnic groups, to be unemployed or single. African Caribbean patients did not differ significantly from other ethnic groups in terms of repeated admissions, but tended to live in more deprived areas than White British patients.

### **Length of hospital stay (LOS)**

The third aim of this study was to evaluate whether LOS differed between ethnic groups; whilst also controlling for other socio-demographic and clinical variables thought to have an effect. As LOS was highly skewed a log transformation was conducted. Three-way between groups ANCOVAs were conducted to identify any main effects and to evaluate whether any interactions occurred between the variables. Homogeneity of regression slopes were tested for and could be assumed. Initially IMD score, age and frequency of admission (i.e. first, second, third admission) were inputted

as covariates, but only age was found to have a significant effect on LOS. Within the sample, greater LOS was observed for older patients than younger patients. Table 6 details the adjusted means and adjusted transformed means for LOS. Standard deviations for the transformed scores are also given within the table. Figure 2 provides graphs for each of the potential interactions between ethnicity and the variables in the study; and their combined effect upon LOS. The greatest LOS (days) observed was for African Caribbean patients ( $M=80.3$ ), single patients ( $M=59.73$ ), patients with a diagnosis of schizophrenia ( $M=73.1$ ), unemployed patients ( $M=53.1$ ) and patients who had received a section ( $M=72.9$ ) or who been admitted compulsorily ( $M=65.3$ ).

#### *Ethnicity, gender and employment status*

A  $9 \times 2 \times 4$  between-groups ANCOVA was conducted to assess for the effect of ethnicity, gender and employment status upon LOS, with age as the covariate. A significant, positive relationship was found between the covariate age and LOS,  $F(1, 2907) = 3.53, p < .001, \eta^2 = .01$ . After controlling for age there was no significant effect of gender  $F(1, 2907) = 0.78, p = .376$ , or employment status on LOS,  $F(3, 2907) = 1.56, p = .197$ . Ethnicity was found to have a significant effect upon LOS,  $F(8, 2907) = 3.53, p < .001, \eta^2 = .01$ . Sidak post hoc tests revealed a significant difference between the LOS for White British ( $M=48$ ) and African Caribbean patients ( $M=80$ ),  $p < .05$ . Differences between White British patients and Pakistani and Somali patients nearly reached significance,  $p < .08$ . No significant interactions were apparent between ethnicity, employment and gender.

#### *Ethnicity, marital status and admission status*

A second  $9 \times 3 \times 2$  between-groups ANCOVA was conducted for the variables ethnicity, marital status and admission status. The covariate age was again found to



have a significant effect upon LOS,  $F(1, 3175) = 89.04, p<.001, \eta_p^2 = .03$  as was ethnicity  $F(8, 3175) = 3.53, p<.001, \eta_p^2 = .01$ . Marital status was also found to have a significant effect upon LOS  $F(2, 3175) = 17.80, p<.001, \eta_p^2 = .01$ . Sidak post hoc tests

**Table 6:** Descriptive statistics for length of hospital stay (LOS)

	N	Mean LOS (days)	Transformed LOS	
			Mean	SD
<b>Ethnic group</b>				
White British	2532	48.15	1.37	0.57
African	62	48.14	1.41	0.47
African Caribbean	132	80.32	1.64	0.52
Somali	101	72.97	1.56	0.54
Asian other	80	48.83	1.35	0.54
Pakistani	171	61.38	1.52	0.50
White other	81	34.99	1.30	0.53
Dual Heritage	82	47.30	1.34	0.56
Other	114	57.33	1.47	0.51
<b>Employment</b>				
unemployed	1815	53.08	1.42	0.57
employed	440	36.24	1.29	0.54
student	101	37.00	1.31	0.53
other	623	64.72	1.50	0.55
<b>Marital status</b>				
single	1903	59.73	1.48	0.56
married with partner	751	34.19	1.28	0.53
other	576	48.39	1.36	0.56
<b>Diagnosis</b>				
schizophrenia	1214	73.13	1.61	0.51
depression	544	41.08	1.37	0.52
bipolar/mania	483	55.47	1.51	0.50
substance related	303	28.08	1.20	0.46
personality disorder	291	28.69	1.14	0.51
general examination	211	26.83	0.95	0.70
neurotic/somatoform	195	22.54	1.11	0.49
other	110	51.09	1.32	0.67
<b>Section ever</b>				
no	1936	34.58	1.24	0.55
yes	1420	72.95	1.61	0.52
<b>Admission status</b>				
informal	2194	43.16	1.31	0.57
compulsory	1162	65.28	1.56	0.52
<b>Gender</b>				
male	1929	51.64	1.41	0.56603
female	1427	49.71	1.38	0.56377

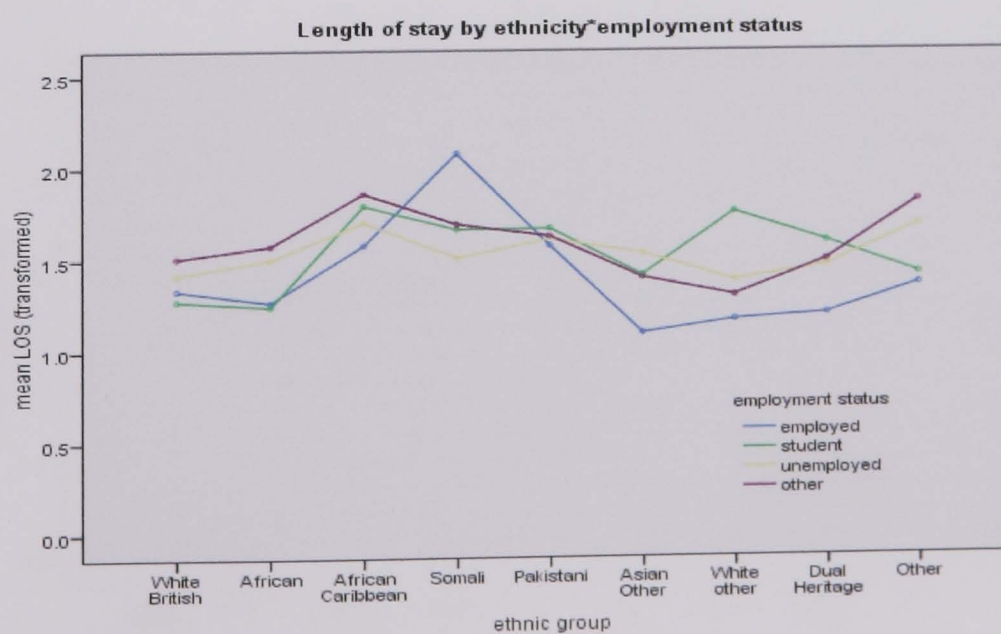
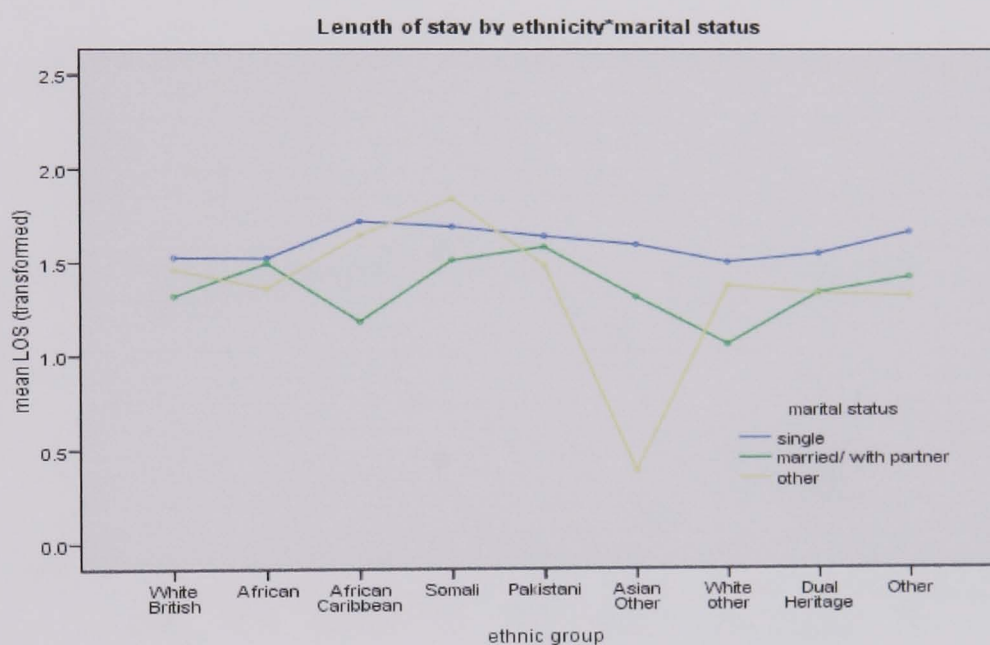
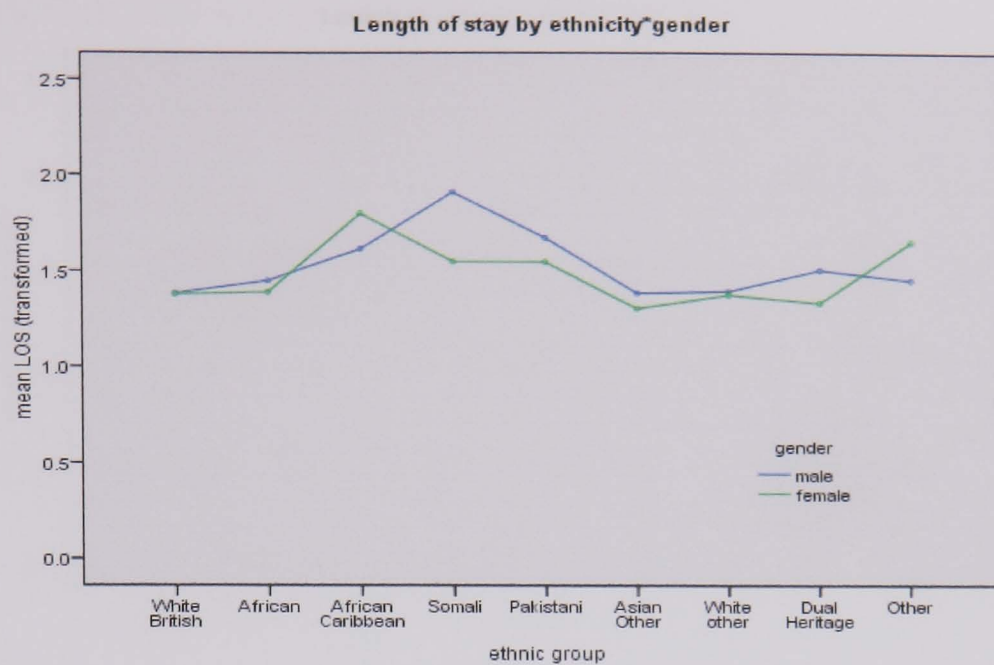
Note: Means have been adjusted by covariate ‘age’

revealed significant differences in LOS between single patients and patients who were married or in a relationship,  $p < .001$ . Admission status was also found to have a significant, although extremely small effect upon LOS,  $F(1, 3175) = 5.82, p < .05, \eta_p^2 = .002$ . Post hoc tests revealed that patients who were admitted compulsorily had greater LOS than those who were admitted informally. There were no significant interactions between ethnicity, marital status and admission status.

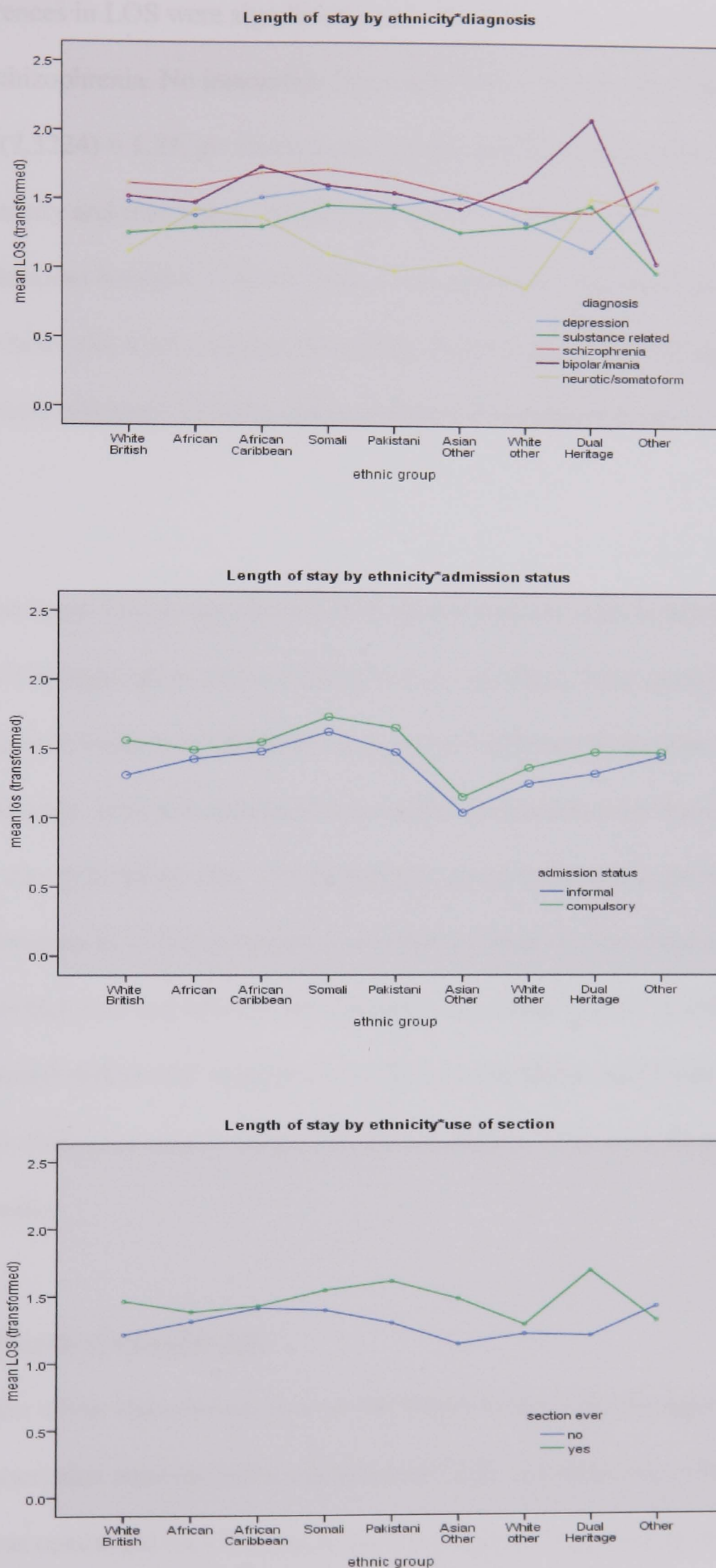
### *Ethnicity, diagnosis and use of section*

An  $8 \times 9 \times 2$  between-groups ANCOVA was conducted to evaluate whether diagnosis, ethnicity and use of a section had an effect upon LOS and whether any interactions existed between these variables. The covariate age continued to have a significant effect upon LOS,  $F(1, 3224) = 42.51, p < .001, \eta_p^2 = .01$ . Diagnosis had a significant effect upon LOS  $F(7, 3224) = 10.62, p < .001, \eta_p^2 = .02$ ; as did receiving a section  $F(1, 3224) = 8.35, p < .01, \eta_p^2 = .003$ . Sidak post hoc tests revealed significant differences between LOS for patients with a diagnosis of schizophrenia ( $M=1.59$ ) and LOS for patients who had received either a diagnosis of personality disorder ( $M=1.24$ ), neurosis ( $M=1.19$ ) or a substance related disorder ( $M=1.31$ ),  $p < .01$ . No significant differences in LOS were found between patients with a diagnosis of schizophrenia ( $M=1.59$ ), depressive illness ( $M=1.45$ ) or bipolar disorder ( $M=1.45$ ). Patients who received a section ( $M=1.46$ ) tended to have a greater LOS than those not detained during their stay in hospital ( $M=1.28$ ),  $p < .001$ .

Although ethnicity had previously been found to have a significant effect upon LOS. within this analysis ethnicity was found to be non significant  $F(8, 3224) = 1.49, p = .16$ . A significant interaction between ethnicity and diagnosis  $F(52, 3224) = 1.39, p < .05, \eta_p^2 = .02$  appeared to account for this finding. Simple effects analysis indicated that



**Figure 2:** Interactions between variables and effect upon length of hospital stay



**Figure 2 (cont):** Interactions between variables and effect upon length of hospital stay

ethnic differences in LOS were significant across all diagnostic categories ( $p < .001$ ) other than schizophrenia. No interaction was found between receiving a section and diagnosis,  $F(7, 3224) = 1.54$ ,  $p = .15$  but a very small significant interaction was found between ethnicity and receiving a section  $F(8, 3224) = 2.06$ ,  $p < .05$ ,  $\eta_p^2 = .005$ . There were no differences between LOS for African Caribbean patients who had received a section and those who were informal throughout their hospital stay; but larger differences were observed for Asian patients and dual heritage patients.

### *Summary*

To summarise these results, age was found to have a positive relationship with LOS; however level of deprivation was not found to have an effect. After controlling for age, patients who were single were found to have greater LOS than those who were married or in a relationship. LOS also appeared to be higher for patients who received a section during their stay in hospital. This was particularly apparent for Asian patients but there were no differences in LOS for African Caribbean patients who received a section, and for those who had informal admissions. Ethnicity was found to have an effect upon LOS, the greatest differences being between African Caribbean and White British patients. This difference was no longer apparent however, when patients had a diagnosis of schizophrenia.

### **Predicting length of hospital stay**

The fourth aim of the research was to evaluate which of the socio-demographic and ethnic characteristics were the better predictors of LOS. A forced entry multiple regression was conducted for LOS, inputting the variables; diagnosis of schizophrenia. African Caribbean ethnicity, single status, use of section, age, IMD2007 and unemployment simultaneously as predictors. Admission status was not inputted into the

model as it would have correlated highly with use of section and thus violated the assumptions required of a linear regression. All assumptions, including multicollinearity and independence of residuals, were tested for and met utilising the transformed LOS data.

Table 7 provides the standardised and non-standardised beta values, standard errors and significant levels for the regression model. Use of section ( $\beta=.32$ ) was the strongest predictor for LOS, followed by receiving a diagnosis of schizophrenia ( $\beta=.19$ ), both of which were highly significant  $p<.001$ . Age ( $\beta=.161$ ) and being single ( $\beta=.08$ ) also significantly predicted LOS,  $p<.001$  as did being of African Caribbean ethnicity ( $\beta=.05$ )  $p<.01$ . IMD score and unemployment were not found to be significant predictors of LOS. The full regression model accounted for 19% of the variance in LOS within the sample ( $R^2=.19$ ), which was highly significant  $F(7, 2766)= 93.04$ ,  $p<.001$ .

**Table 7:** Forced entry regression model predicting length of hospital stay (LOS)

Predictor variable	<i>B</i>	<i>SEB</i>	$\beta$
(constant)	.942	.043	
Section ever	.324	.018	.317**
Diagnosis of schizophrenia	.197	.019	.190**
Age	.007	.001	.161**
Single	.082	.020	.080*
African Caribbean ethnicity	.120	.045	.046*
IMD 2007	.000	.000	-.008**
Unemployed	.001	.018	.001**

$R^2=.189$ ;  $F(7, 2766)= 93.04$ ,  $p<.001$ ;  
 \* $p<.01$ , \*\* $p<.001$

### Discussion

In the context of aims to reduce admission rates and LOS in the NHS, this novel study sought to examine ethnic differences in LOS, whilst controlling for other socio-demographic and clinical variables thought to have an effect. The study also aimed to

evaluate whether admission rates in the region were higher for African Caribbean people and to identify any characteristic differences between ethnic groups. Finally, the study examined what factors better predict LOS in acute hospital.

### **Admission rates**

The first aim of the study was to explore whether ethnic differences in admission rates were apparent within the region. The results indicated that African Caribbean people were three times more likely to be admitted to acute inpatient services than would have been anticipated from population statistics. Although these findings were consistent with previous studies [1] caution needs to be taken when interpreting these results. Firstly the Census data used in the study was conducted in 2001 and may be out of date. The survey has also been criticised for under reporting the number of BME people, due to poorer response rates from these communities [40]. The alarmingly high proportion of Black African people admitted to inpatient services may also be explained by the large Somali population in Sheffield, many of whom are refugees. Immigration status is extremely difficult to obtain and higher levels of mental illness have been reported within this population [41]. This may limit the generalisation of these findings to areas of the country with different populations.

### **Characteristics of ethnic groups**

The second aim of the study was to identify differences between ethnic groups in socio-demographic and clinical characteristics. No gender differences were observed between ethnic groups but African Caribbean patients were more likely to be single.

African Caribbean patients were also more likely than other ethnic groups to receive a diagnosis of schizophrenia and were the least likely to receive a diagnosis of depression. These ethnic differences were consistent with previous studies that have explored

factors associated with psychosis [42,43]. The reasons for high rates of schizophrenia within the African Caribbean population remain unclear and numerous hypotheses have been presented to account for this discrepancy [16]. Interestingly substance related disorders were found to be least common among African Caribbean patients within the sample. This contradicts research suggesting greater levels of mental illness associated with substance use within this patient group [44].

The impact of financial circumstances on mental health has tended to be underestimated in general population studies [45] and indeed within the sample levels of unemployment and deprivation were significantly higher than within the general population. No differences were apparent between BME groups suggesting consistently high rates across these groups of patients. There were also no ethnic differences in number of repeat admissions but African Caribbean patients did have the highest rates of compulsory admissions. This was consistent with previous research [4]; however the present study suggested that high detention rates were experienced by many BME groups. Somali patients had the highest rates of detention observed within the sample.

These findings support the view that the diversity of ethnic groups and limitations of ethnic group classifications need to be fully appreciated in research [9], especially when evaluating service provision for the multicultural population within the UK. The results suggest that broad census categories may account for some of the variation found between studies utilising these categories. Within the present sample distinct differences were found between Somali, African and African Caribbean patients. Although it is possible that this may be an isolated example within a specific population, it is likely that encompassing all African and Caribbean countries into one group as many studies have tended to do, does not reflect the heterogeneity of such groups.



## **Length of hospital stay**

The third aim of the study was to explore ethnic differences in LOS, whilst controlling for factors identified in the previous stage of the project. Older patients were found to have greater LOS, which was a similar finding to previous studies [e.g. 27, 44]. After controlling for age, receiving a diagnosis of schizophrenia or mood disorder was found to be associated with greater LOS. Ethnic differences were also apparent. African Caribbean and Somali patients had the highest LOS, whereas White British, African, South Asian and Dual heritage patients tended to have lower LOS. The differences between African Caribbean and White British patients were similar to those found in a previous study [20]. These differences continued to be apparent when controlling for the majority of other variables, but were no longer significant when controlling for diagnosis. The results suggested that high rates of diagnosis of schizophrenia within particular patient groups, accounted for a large proportion of variability between ethnic groups in LOS. Receiving a section was also consistently related to greater LOS across all patient groups.

Ill health is known to be strongly linked to social deprivation [45] but surprisingly deprivation scores were not found to have an effect upon LOS. One reason for this could be due to the choice of measure. The IMD scores utilised in the study are area based indicators of multiple deprivation. They are calculated via a number of measures across several domains including health, employment, income, education, crime and barriers to housing. These aggregate scores may not have been sensitive enough to identify specific categories of deprivation associated with greater LOS. It has also been reported that other measures such as the ability to mobilise resources may increase ethnic differences in health status, whereas static factors such as home ownership can have the opposite affect [46]. Unemployment has also been found to

have a significant impact upon mental health [47] but interestingly this was not found to have a significant effect upon LOS within the study. Being single on the other hand, was consistently found across ethnic groups to be associated with longer LOS. This suggested that living with a spouse may have a ‘social buffering’ effect [48]. A greater proportion of African Caribbean patients were single and this lack of social support may contribute to greater LOS for this patient group.

### **A predictive model for length of hospital stay**

The final aim of this study was to look at the predictive value of several of the socio-demographic and clinical factors examined in the study. Accurate prediction of patients most at risk of protracted LOS would be of considerable benefit to health services. African Caribbean ethnicity did account for some of the variability in LOS but being single and having a diagnosis of schizophrenia were stronger predictors. Overall receiving a section had the highest predictive value for LOS, whereas deprivation score and unemployment were not found to be significant. These results were similar to previous studies suggesting that psychotic diagnosis [23] and age and marital status [45] predicted longer LOS on psychiatric wards. A large proportion of the variability in LOS was not accounted for by the overall model, which suggested there are a number of other variables effecting LOS not examined within the study.

### **Limitations**

Whilst this study had noticeable strengths, there were some limitations. Guaranteeing accuracy is a known criticism of retrospective data collection and analysis. There was very little missing data in the study, but no way of establishing whether or not patients were asked about their ethnicity and social circumstances. The data was recorded by health professionals and variables were factually based, which may have resulted in less

potential for bias. Future research might evaluate similar variables using case note interrogation or client interviews in order to further validate these findings. Obtaining such detailed information for the large number of patients in the sample would have been beyond the scope of this study. Variables were chosen for the study based on previous research and their availability. It was not possible to include all of the potential variables that might have had an effect on LOS for example living status, symptom severity and treatment received. A greater number of variables would also have reduced the power of the study and the focus was upon utilising routinely recorded and readily accessible data.

One significant limitation of the study was that it was unclear from the data the number of patients who moved from the wards to forensic or out of area placements, or the number of students who following admission moved back to their home town. The study also did not differentiate between first and second generation African Caribbean patients. Migration has been found to be a significant risk factor for the development of schizophrenia [49] and rates appear to be particularly high for second generation African Caribbean people [50]. The incidence of schizophrenia in BME groups has also been found to be greater when they comprise a smaller proportion of the local population [51]. The ethnic density of patients' neighbourhoods was not explored within the present study. In terms of the methodology, using large numbers of statistical tests even within such a large scale study reduces power and increases the risk of making type 1 errors. However the author did attempt to control for this using Bonferroni corrections and post hoc procedures. The results presented were also highly significant ( $p < .001$ ) and effect sizes tended to be large.

## **Generalisability**

The magnitude of ethnic disparities in admission rates varies due to service configuration and population characteristics [52]. It is therefore important for epidemiological studies to be conducted in different areas of the country to validate findings. This large scale study in the North of England utilised data obtained from five inpatient wards and was not limited to a particular hospital. These wards were within the same region though and used similar city wide management strategies and healthcare practices. By providing a detailed description of the characteristics of the present sample, and of the population from which they were drawn, it is hoped this will allow for socio-demographic comparison with studies conducted in other areas of the country.

This studies strength lies in the high degree of control exhibited over variables and the small amount of missing data in the sample. The variables within the predictive model also had good face validity and effects were compared across all ethnic groups rather than exclusively between White British and African patients. The reported findings were also highly significant and very little shrinkage was observed in the regression model suggesting that these effects were generalisable to other populations. Still, as with most studies it is envisaged that further research will be necessary to generalise these results to other populations within the UK.

## **Future research**

Epidemiological research has started to move beyond simply describing differences between the health care received by African Caribbean people and the white majority, to the more complex task of identifying reasons for these apparent inequalities in health care provision. This study has emphasised the value of comparative research across

BME patient groups, as similar experiences e.g. high levels of deprivation or social exclusion do not always result in the same disparities in health or health care provision. This type of research will generate a better understanding of BME patient groups within the UK and may help to rule out some of the potential hypothesis given within the literature for high rates of schizophrenia and LOS.

A large number of variables were not examined in the present study and might be explored in future studies. Receiving a section was the strongest predictor of LOS but it is unclear whether high rates of detention are a result of lack of insight, symptom severity or refusal of treatment. A significant association between psychosis and violence has also been demonstrated [53] and future research might examine the relation between levels of violence, use of section and greater LOS for this patient group. It is also unclear whether understanding and experience of psychosis is different between ethnic groups as this remains an under researched area. Therapeutic alliance is also thought to be a strong indicator of treatment outcome [54] and it is unclear whether poor engagement of BME patients predicts greater LOS. The incidence of schizophrenia in BME patient groups has also been found to be greater when they comprise a smaller proportion of the local population; this is not something that has not been controlled for when looking at LOS in ethnic minority groups. Lastly, ethnic comparisons tend to be made between rates of inpatient admission and proportions of people in the general population. It may be more informative in future to compare admission rates with proportions of ethnic groups within community mental health services.

## **Conclusion**

There is a broad consensus that differences exist between the health care experiences of African Caribbean people and the white majority within the UK. To the author's

knowledge this was the first systematic study to explore ethnic differences in LOS, whilst controlling for characteristic differences between ethnic groups. Receiving a section, a diagnosis of schizophrenia and being single were all identified as strong predictors for greater LOS across all ethnic groups. Surprisingly, deprivation and unemployment were not found to have an effect upon LOS. African Caribbean patients had the longest LOS, but this difference was no longer significant when controlling for diagnosis. Large proportions of African Caribbean patients were also single, which may suggest that less social support structures are available to this client group.

This study emphasises the importance of gaining a better understanding of the experiences and characteristics of BME groups. Health professionals need to be aware of the diversity of ethnic groups and the limitations of broad ethnic categories. A balance needs to be found when conducting research employing BME participants, where studies take into consideration the substantial research conducted with the White British population, whilst not presuming equivalence across ethnic groups. This large scale study showed the value of comparative research between BME groups when hypothesis testing and identified several avenues for future research. It is also hoped that this study will help to bring about a better understanding of the ethnic disparities in LOS and help services to better predict patients at risk of long term admission through the use of easily accessible indicators.

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## **Appendix 1**

**Instructions to authors**

**British Journal of Psychiatry**

## INSTRUCTIONS FOR AUTHORS

### Contents

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### Introduction

The *British Journal of Psychiatry* is published monthly by The Royal College of Psychiatrists. The *Journal* publishes original work in all fields of psychiatry. Manuscripts for publication should be submitted online via <http://submit-bjp.rcpsych.org>.

All published articles are peer reviewed. Contributions are accepted for publication on the condition that their substance has not been published or submitted for publication elsewhere, and this includes web-based documents. Authors submitting papers to the *Journal* (serially or otherwise) with a common theme or using data derived from the same sample (or a subset thereof) must send details of all relevant previous publications and simultaneous submissions.

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Manuscripts accepted for publication are copy-edited to improve readability and to ensure conformity with house style.



## Online submission

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To submit a letter to the Editor, see below.

## Fast-track assessment

Authors have the option of submitting articles for fast-track assessment. Those wishing to take this route should state this in the first or second sentence of their cover letter, together with the reasons for rapid assessment. A decision whether to approve the fast-track route will be made within 10 days of submission; those papers that are not selected for this route will be assessed in the normal way unless the authors state specifically that they want fast-track assessment only. All papers approved for the fast-track route will be assessed within 4 weeks of submission. Review articles will not be considered for fast-track assessment.

## Title and authors

The title should be brief and relevant. Subtitles should not be used unless they are essential. Titles should not announce the results of articles and, except in editorials, they should not be phrased as questions.

All authors must sign the copyright transfer and publication agreement, which can be downloaded from <http://submit-bjp.rcpsych.org> once a manuscript has been accepted. One of the authors should be designated to receive correspondence and proofs, and the appropriate address indicated. This author must take responsibility for keeping all other named authors informed of the paper's progress. The contribution of each author to the paper must be stated at the end of the article; this information may be published online. Authorship credit should be based only on substantial contribution to:

- conception and design, or analysis and interpretation of data
- drafting the article or revising it critically for important intellectual content
- and final approval of the version to be published.

All these conditions must be met. Participation solely in the acquisition of funding or the collection of data does not justify authorship. In addition, the corresponding author must ensure that there is no one else who fulfils the criteria but has not been included as an author. Group authorship is permitted but individuals choosing this option will not be cited personally, as only those listed as authors on the title page of the manuscript and (on acceptance for publication) whose signed copyright agreement has been obtained, qualify for author status. It is the responsibility of the corresponding author to ensure that



authorship is agreed among the study's workers, contributors of additional data and other interested parties, before submission of the manuscript.

The names of the authors should appear on the title page in the form that is wished for publication, and the names, degrees, affiliations and full addresses at the time the work described in the paper was carried out should be given at the end of the paper.

## **Declaration of interest**

All submissions to the *Journal* (including editorials and letters to the Editor) require a declaration of interest. This should list fees and grants from, employment by, consultancy for, shared ownership in, or any close relationship with, an organisation whose interests, financial or otherwise, may be affected by the publication of the paper. This pertains to all the authors of the study.

## **Structure of manuscripts**

### **Papers**

A structured abstract not normally exceeding 150 words should be given at the beginning of the article, incorporating the following headings: Background; Aims; Method; Results; Conclusions; Declaration of interest. The abstract is a crucial part of the paper and authors are urged to devote some care to ensuring that all the important findings are within the word limit.

Introductions should normally be no more than one paragraph; longer ones may be allowed for new and unusual subjects. This should be followed by Method, Results and Discussion sections. The Discussion should always include limitations of the paper to ensure balance. Use of subheadings is encouraged, particularly in Discussion sections. A separate Conclusions section is not required.

The article should normally be between 3000 and 5000 words in length (excluding references, tables and figure legends) and normally would not include more than 25 essential references beyond those describing statistical procedures, psychometric instruments and diagnostic guidelines used in the study. All large tables (exceeding half a *Journal* page) will be published only in the online version of the *Journal* (see Online data supplements, below). Authors are encouraged to present key data within smaller tables for print publication. This applies also to review articles and short reports.

### **Review articles**

Review articles should be structured in the same way as regular papers, but the restriction on the number of references does not apply. The procedure for the publication of systematic reviews is the preferred format

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Short reports require an unstructured summary of one paragraph, not exceeding 100 words. The report should not exceed 1200 words (excluding references, tables and figure legends) and contain no more than one figure or table and up to 10 essential references



beyond those describing statistical procedures, psychometric instruments and diagnostic guidelines used in the study. Short reports will not exceed two printed pages of the *Journal* and authors may be required to edit their report at proof stage to conform to this requirement. This may be necessary even if the report does not exceed 1200 words if the figure or table is unduly large.

## Editorials

Editorials require an unstructured summary of one paragraph, not exceeding 50 words. Editorials should not exceed 1500 words and may contain no more than one figure or table and up to 10 essential references. Editorials may only exceed two printed pages in length at the Editor's discretion. A good-quality photograph of the lead author for publication alongside the editorial must be submitted with the manuscript, along with brief biographical details (up to 25 words) for all authors.

## Reappraisal

This is a section following the structure of Editorials but with up to 15 essential references, provided that the total length does not exceed two printed pages. These articles are mainly commissioned by the Editor and are concerned with well-known subjects in psychiatry which are going through a period of controversy or re-evaluation. Reappraisals are intended to give a long-term balanced perspective on the subject based on the latest evidence.

## References

Authors are responsible for checking all references for accuracy and relevance in advance of submission. Reference lists not in the correct style will be returned to the author for correction. From January 2008, all references should be numbered in the order in which they appear in the text and listed at the end of the article using the Vancouver style (see below), in which the names and initials of all authors are given after the appropriate reference number. If there are more than six authors, the first six should be named, followed by 'et al'.

The authors' names are followed by the full title of the article; the journal title abbreviated (in italics) according to the style of Index Medicus; the year of publication; the volume number (in bold type); and the first and last page numbers. References to book or book chapters should give the titles of the book (and the chapter if selected), names of any authors, name of publisher, names of any editors, and year. Examples are shown below.

1 Kapusta ND, Etzersdorfer E, Krall C, Sonneck G. Firearm legislation reform in the European Union: impact on firearm availability, firearm suicide and homicide rates in Austria. *Br J Psychiatry* 2007; **191**: 253-7.

2 Thornicroft GJ. *Shunned: Discrimination Against People with Mental Illness*. Oxford University Press, 2006.

3 Casey P. Alternatives to abortion and hard cases. In *Swimming Against the Tide; Feminist Dissent on the Issue of Abortion* (ed AB Kennedy): 86-95. Open Air Books, 1997.



4 Lancet. Burnished or burnt out: the delights and dangers of working in health (editorial). *Lancet* 1994; **344**: 1583-4.

5 Pharmaceutical Research and Manufacturers of America (PhRMA). *PhRMA Guiding Principles on Direct to Consumer Advertisements About Prescription Medications*. PhRMA, 2005. <http://www.phrma.org/publications/policy//2005-08-02.1194.pdf>

6 Soni SD, Mallik A, Mbatia J, Shrimankar J. Late paraphrenia (letter). *Br J Psychiatry* 1988; **152**: 719-20.

7 Viding E, Frick P, Plomin R. Aetiology of the relationship between callous-unemotional traits and conduct problems in childhood. *Br J Psychiatry* 2007; **190** (suppl 49): s33-8.

Personal communications need written authorisation (email is acceptable); they should not be included in the reference list. Unpublished doctoral theses may be cited (please state department or faculty, university and degree). No other citation of unpublished work, including unpublished conference presentations, is permissible.

## Tables

Tables should be numbered and have an appropriate heading. The tables should be mentioned in the text but must not duplicate information. The heading of the table, together with any footnotes or comments, should be self-explanatory. The desired position of the table in the manuscript should be indicated. Do not tabulate lists, which should be incorporated into the text, where, if necessary, they may be displayed.

Authors must obtain permission from the original publisher if they intend to use tables from other sources, and due acknowledgement should be made in a footnote to the table.

## Figures

Figures should be clearly numbered and include an explanatory legend. Avoid cluttering figures with explanatory text, which is better incorporated succinctly in the legend. 3-D effects should generally be avoided. Lettering should be parallel to the axes. Units must be clearly indicated and should be presented in the form quantity (unit) (note: 'litre' should be spelled out in full unless modified to ml, dl, etc.). All figures should be mentioned in the text and the desired position of the figure in the manuscript should be indicated.

Authors must obtain permission from the original publisher if they intend to use figures from other sources, and due acknowledgement should be made in the legend.

Colour figures may be reproduced if authors are able to cover the costs.

## Statistics

Methods of statistical analysis should be described in language that is comprehensible to the numerate psychiatrist as well as the medical statistician. Particular attention should be paid to clear description of study designs and objectives, and evidence that the statistical procedures used were both appropriate for the hypotheses tested and correctly interpreted. The statistical analyses should be planned before data are collected and full explanations



given for any *post hoc* analyses carried out. The value of test statistics used (e.g. *t*, *F*-ratio) should be given as well as their significance levels so that their derivation can be understood. Standard deviations and errors should not be reported as  $\pm$  but should be specified and referred to in parentheses.

Trends should not be reported unless they have been supported by appropriate statistical analyses for trends.

The use of percentages to report results from small samples is discouraged, other than where this facilitates comparisons. The number of decimal places to which numbers are given should reflect the accuracy of the determination, and estimates of error should be given for statistics.

A brief and useful introduction to the place of confidence intervals is given by Gardner & Altman (1990, *British Journal of Psychiatry*, 156, 472–474). Use of these is encouraged but not mandatory.

Authors are encouraged to include estimates of statistical power where appropriate. To report a difference as being statistically significant is generally insufficient, and comment should be made about the magnitude and direction of change.

## Randomised controlled trials

The *Journal* recommends to authors the CONSORT guidelines (1996, *Journal of the American Medical Association*, 276, 637–639) and their basis (2001, *Annals of Internal Medicine*, 134, 663–694) in relation to the reporting of randomised controlled clinical trials; also recommended is their extension to cluster randomised controlled trials (2004, *BMJ*, 328, 702–708). In particular, a flow chart illustrating the progress of participants through the trial (CONSORT diagram) must be included.

## Qualitative research

The *Journal* welcomes submissions of reports of studies that have used qualitative research methods. These may, for example, be based on fieldwork notes, interview transcripts, recordings or documentary analysis. Such studies may be judged using criteria that differ from those used to judge reports based on statistical evidence. The following checklist (adapted, with permission, from the *BMJ*'s guidelines) should serve as a useful guide.

- Is the research question clearly defined?
- Are the theoretical framework and methods used at every stage of the research made explicit?
- Is the context clearly described?
- Is the sampling strategy clearly described and justified?
- Is the sampling strategy theoretically comprehensive to ensure the generalisability of the conceptual analysis (diverse range of individuals and settings, for example)?
- How was the fieldwork undertaken? Is it described in detail?
- Could the evidence (fieldwork notes, interview transcripts, recordings, documentary analysis, etc.) be inspected independently by others? If relevant, could the process of transcription be independently inspected?



- Are the procedures for data analysis clearly described and theoretically justified? Do they relate to the original research questions?
- How were themes and concepts identified from the data?
- Was the analysis repeated by more than one researcher to ensure reliability?
- Is quantitative evidence used to test qualitative conclusions where appropriate?
- Have observations that might have contradicted or modified the analysis been sought out and reported?
- Is sufficient of the original evidence presented systematically in the written account to satisfy the sceptical reader of the relation between the interpretation and the evidence (for example, were quotations numbered and sources given)?

## General

### Access to data

If the study includes original data, at least one author must confirm that he or she had full access to all the data in the study, and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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The *Journal* recommends that all clinical trials are registered in a public trials registry. Further details of criteria for acceptable registries and of the information to be registered are available at [http://www.icmje.org/index.html#clin\\_trials](http://www.icmje.org/index.html#clin_trials). For reports supported by industry funds, this is a requirement for the paper to be considered for publication in the *Journal*.

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If an individual is described, his or her consent must be obtained and submitted with the manuscript. Our [consent form](#) can be downloaded here. The individual should read the report before submission. Where the individual is not able to give informed consent, it should be obtained from a legal representative or other authorised person. If it is not possible for informed consent to be obtained, the report can be published only if all details that would enable any reader (including the individual or anyone else) to identify the person are omitted. Merely altering some details, such as age and location, is not sufficient to ensure that a person's confidentiality is maintained. Contributors should be aware of the risk of complaint by individuals in respect of defamation and breach of confidentiality, and where concerned should seek advice. In general, case studies are published in the *Journal* only if the authors can present evidence that the case report is of fundamental significance and it is unlikely that the scientific value of the communication could be achieved using any other methodology.

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## Abbreviations, units and footnotes

All abbreviations must be spelt out on first usage and only widely recognised abbreviations will be permitted.

The generic names of drugs should be used.

Generally, SI units should be used; where they are not, the SI equivalent should be included in parentheses. Units should not use indices: i.e. report g/ml, not gml<sup>-1</sup>.

The use of notes separate to the text should generally be avoided, whether they be footnotes or a separate section at the end of a paper. A footnote to the first page may, however, be included to give some general information concerning the paper.

## Materials, equipment and software

The source of any compounds not yet available on general prescription should be indicated. The version number (or release date) and manufacturer of software used, and the platform on which it is operated (PC, Mac, UNIX etc.), should be stated. The manufacturer, manufacturer's location and product identification should be included when describing equipment central to a study (e.g. scanning equipment used in an imaging study).

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A proof will be sent to the corresponding author of an article. Offprints, which are prepared at the same time as the *Journal* is printed, should be ordered when the proof is returned to the Editor. Offprints are despatched up to 6 weeks after publication.

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On acceptance of the paper for publication, we will require all authors to assign copyright to the Royal College of Psychiatrists. You retain the right to use the article (provided you acknowledge the published original in standard bibliographic citation form) in the following ways, as long as you do not sell it (or give it away) in ways which would conflict directly with our business interests. You are free to use the article for teaching purposes within your own institution or, in whole or in part, as the basis of your own further publications or spoken presentations. In addition, you retain the right to provide a copy of the manuscript to a public archive (such as an institutional repository or PubMed Central) for public release no sooner than 12 months after publication in the *British Journal of Psychiatry* (or from the date of publication, if the open access option is chosen, see below). Only the final peer-reviewed manuscript as accepted for publication (not earlier versions, or the final copy-edited version) may be deposited in this way. Any such manuscripts must contain the following wording on the first page: "This is an author-produced electronic version of an article accepted for publication in the *British Journal of Psychiatry*. The definitive publisher-authenticated version is available online at <http://bjp.rcpsych.org>."

## Letters to the Editor

Letters may be submitted online either as responses to published articles (follow the link 'submit a response' when viewing an article online) or as general letters to the Editor (from



the general eLetter submission page). A selection from these eLetters will subsequently be included in the printed *Journal*. Correspondence submitted for publication in the print edition without prior online publication as eLetters should be sent to [bjpletters@rcpsych.ac.uk](mailto:bjpletters@rcpsych.ac.uk).

## Extras

Extras are published at the end of articles where space allows. These comprise a wide range of material considered to be of interest to readers of the *Journal*. Submissions for publication as extras should not be submitted online, but sent by email directly to the Executive Contents Editor, Professor Robert Howard ([robert.howard@iop.kcl.ac.uk](mailto:robert.howard@iop.kcl.ac.uk)).

## Open access

There is no submission or publication fee for papers published in the *Journal* in the usual way. All papers published in the *Journal* become freely available online 12 months after publication. In a new initiative to maximise access to original research, authors now have the option to make their papers freely available from the time of publication, on payment of an open access charge. This charge is currently £2500 (or US\$4500) per article plus VAT where applicable. If you wish to take up this option, contact the BJP Editorial Assistant once your paper has been accepted for publication. For such papers the requirement for a 12-month delay before release of the manuscript in a public archive is waived, and the final published version may be deposited.

At any time up to 5 years after publication of research in the *Journal*, authors may be asked to provide the raw data.

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- Print ISSN: 0007-1250

## **Appendix 2**

### **Instructions to authors**

### **Social Psychiatry and Psychiatric Epidemiology**



# Social Psychiatry and Psychiatric Epidemiology

Visit our homepage: [www.sppe.springer.de](http://www.sppe.springer.de)

## Indexing and Abstract Services

- Institute for Scientific Information (ISI)
  - Social Sciences Citation Index<sup>®</sup>
  - Social Scisearch<sup>®</sup>
  - ISI Alerting Services (includes Research Alert<sup>®</sup>)
  - Current Contents<sup>®</sup>/Social and Behavioral Sciences
- MEDLINE/Index Medicus
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- PsycINFO (American Psychological Association)
- EMBASE/Excerpta Medica
- SCOPUS

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[www.bellhowell.infolearning.com](http://www.bellhowell.infolearning.com)

## TECHNICAL INSTRUCTIONS FOR MANUSCRIPT SUBMISSION

### Manuscript submission

Manuscripts need to be submitted electronically by means of upload to the journal's manuscript submission site  
<http://www.editorialmanager.com/sppe>

Manuscripts should be written in English and *must* be accompanied by the "Copyright Transfer Statement" (the form is available at our homepage). Every article should be preceded by a short summary giving the most important results.

Articles dealing with original investigations should be prefaced by a concise introduction to the problem in question; this should be followed by the sections Methods, Results, Discussion, Conclusion and References. The text should be as clear and brief as possible. Manuscripts should be typed with maximum legibility on one side of the page only (double-spaced with broad margins on both sides). Papers should not usually exceed 20 pages, each with 30 lines of 60 typewriter strokes, including spaces. To allow fast publication, only *one* e-proof will be sent to the authors. These proofs will show figures and tables in their final position. Therefore, the manuscript must be in its *final* form and properly prepared for the printer, with the position of figures and tables already marked.

**Outline** The first page of the manuscript should include: 1. Title of the article, 2. Name of all authors, 3. Footnotes to the title, 4. Complete address of all authors with identification (✉) of the corresponding author, 5. Column title (running title of the article for the page heading).

The *tables* are to be numbered independent of the figures with *Arabic* numerals, with headings, and kept separate from the text.

*Figures* must also be numbered with *Arabic* numerals and kept separate from the text. The legends must appear on a separate page. The desired insertion places of figures and tables are to be marked clearly in the text.

**Electronic files** Please observe our Technical Instructions (which are available on our website and in certain issues of the journal) for the composition of your manuscript files.

**Abstract and Key words** An abstract containing the essential points must accompany each article. It should be written to present a condensed extract of the article and be suitable for international documentation systems. An inadequate abstract delays the processing of the manuscripts. Up to 5 *key words* needed for a register and for documentation purposes are to be given below the abstract.

**References** Only articles cited in the text are to be listed. They should be arranged alphabetically by the first author's name and numbered sequentially. *Only the reference number should appear in the text* (in square brackets). *Example:* 1. Corney RH, Murray J (1988) The characteristics of high and low attenders at two general practices. *Soc Psychiatry Psychiatr Epidemiol* 23:39–48

Citations of books should include the surname of the author or authors, followed by initials, year of publication, the full title, edition, publishers and place of publication.

*Example:* 1. Bleuler E (1975) *Lehrbuch der Psychiatrie*, 13th edn. Springer, Berlin Heidelberg New York

**Figures** If the author wants to re-use previously published material he is responsible to provide a permission by the copyright holder.

Double presentation of the same information in tables and figures should be avoided. Short, clear legends make additional description in the text unnecessary.

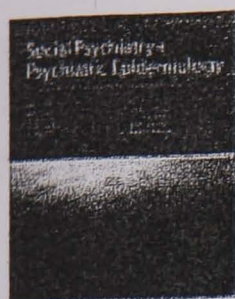
The author is responsible for obtaining either from the patient or his legal representative permission for the reproduction of figures in which a patient can be recognized.

For general advice on the delivery of image files please refer to the Technical Instructions on our website and in certain issues of the journal.

Colour illustrations will be accepted up to the discretion of the editors/the publisher.

**Offprints** Offprints may be ordered at cost price when the page proofs are returned. Steinkopff will supply the corresponding author with two complimentary copies of the relevant issue.





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The International Journal for Research in Social and Genetic  
Epidemiology and Mental Health Services

Editor-in-Chief: P. Bebbington

ISSN: 0933-7954 (print version)

ISSN: 1433-9285 (electronic version)

Journal no. 127

Steinkopff-Verlag Heidelberg

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Online First articles available

## Title page

Title Page

Abstract

Keywords

### Title Page

The title page should include:

- ☐ The name(s) of the author(s)
- ☐ A concise and informative title
- ☐ The affiliation(s) and address(es) of the author(s)
- ☐ The e-mail address, telephone and fax numbers of the corresponding author

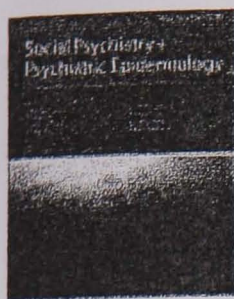
### Abstract

Please provide a structured abstract of 150 to 250 words which should be divided into the following sections:

- ☐ Purpose (stating the main purposes and research question)
- ☐ Methods
- ☐ Results
- ☐ Conclusions

### Keywords

Please provide 4 to 6 keywords which can be used for indexing purposes.

**Social Psychiatry and Psychiatric Epidemiology**

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## Text

### Text Formatting

#### Headings

#### Abbreviations

#### Footnotes

#### Acknowledgments

### Text Formatting

Manuscripts should be submitted in Word.

- ☐ Use a normal, plain font (e.g., 10-point Times Roman) for text.
- ☐ Use italics for emphasis.
- ☐ Use the automatic page numbering function to number the pages.
- ☐ Do not use field functions.
- ☐ Use tab stops or other commands for indents, not the space bar.
- ☐ Use the table function, not spreadsheets, to make tables.
- ☐ Use the equation editor or MathType for equations.  
Note: If you use Word 2007, do not create the equations with the default equation editor but use the Microsoft equation editor or MathType instead.
- ☐ Save your file in doc format. Do not submit docx files.

#### Word template

Manuscripts with mathematical content can also be submitted in LaTeX.

#### LaTeX macro package

### Headings

Please use no more than three levels of displayed headings.

### Abbreviations

Abbreviations should be defined at first mention and used consistently thereafter.

### Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

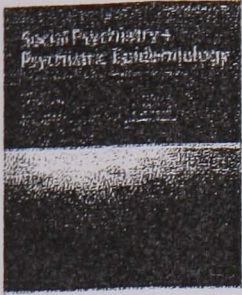
Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

### Acknowledgments



Acknowledgments of people, grants, funds, etc. should be placed in a separate section before the reference list. The names of funding organizations should be written in full.

**Social Psychiatry and Psychiatric Epidemiology**

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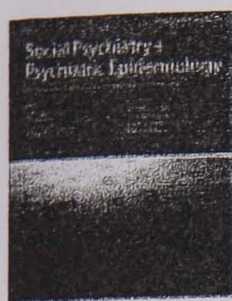
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## Tables

- ✱ All tables are to be numbered using Arabic numerals.
- ✱ Tables should always be cited in text in consecutive numerical order.
- ✱ For each table, please supply a table caption (title) explaining the components of the table.
- ✱ Identify any previously published material by giving the original source in the form of a reference at the end of the table caption.
- ✱ Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body.



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## References

### Citation

#### Reference list

### Citation

Reference citations in the text should be identified by numbers in square brackets. Some examples:

1. Negotiation research spans many disciplines [3].
2. This result was later contradicted by Becker and Seligman [5].
3. This effect has been widely studied [1-3, 7].

### Reference list

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Do not use footnotes or endnotes as a substitute for a reference list.

The entries in the list should be numbered consecutively.

#### Journal article

Gamelin FX, Baquet G, Berthoin S, Thevenet D, Nourry C, Nottin S, Bosquet L (2009) Effect of high intensity intermittent training on heart rate variability in prepubescent children. *Eur J Appl Physiol* 105:731-738. doi: 10.1007/s00421-008-0955-8

Ideally, the names of all authors should be provided, but the usage of "et al" in long author lists will also be accepted:

Smith J, Jones M Jr, Houghton L et al (1999) Future of health insurance. *N Engl J Med* 341:325-329

#### Article by DOI

Slifka MK, Whitton JL (2000) Clinical implications of dysregulated cytokine production. *J Mol Med*. Doi:10.1007/s001090000086

#### Book

South J, Blass B (2001) *The future of modern genomics*. Blackwell, London

#### Book chapter

Brown B, Aaron M (2001) The politics of nature. In: Smith J (ed) *The rise of modern genomics*, 3rd edn. Wiley, New York, pp 230-257

#### Online document

Doe J (1999) Title of subordinate document. In: *The dictionary of substances and their effects*. Royal Society of Chemistry. Available via DIALOG. [http://www.rsc.org/dose/title of subordinate document](http://www.rsc.org/dose/title%20of%20subordinate%20document). Accessed 15 Jan 1999

#### Dissertation

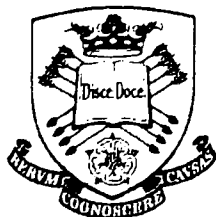
Trent JW (1975) *Experimental acute renal failure*. Dissertation, University of California

Always use the standard abbreviation of a journal's name according to the ISSN List of Title Word Abbreviations, see

[www.issn.org/2-22661-LTWA-online.php](http://www.issn.org/2-22661-LTWA-online.php)

## **Appendix 3**

### **Approval of journals by research supervisor**



The  
University  
Of  
Sheffield.

Department Of Psychology.  
**Clinical Psychology Unit.**

Doctor of Clinical Psychology (DClin Psy) Programme  
Clinical supervision training and NHS research training  
& consultancy.

**Clinical Psychology Unit  
Department of Psychology  
University of Sheffield  
Western Bank  
Sheffield S10 2TP UK**

Telephone: 0114 2226550  
Fax: 0114 2226610  
Email: [c.harrison@sheffield.ac.uk](mailto:c.harrison@sheffield.ac.uk)

20 July 2009

Robert McFarland  
Third year trainee  
Clinical Psychology Unit  
University of Sheffield

Dear Robert

I am writing to indicate our approval of the journal(s) you have nominated for publishing work contained in your research thesis.

**Literature Review:** British Journal of Psychiatry

**Research Report:** Social Psychiatry and Psychiatric Epidemiology

Please ensure that you bind this letter and copies of the relevant Instructions to Authors into an appendix in your thesis.

Yours sincerely

Dr Andrew Thompson  
Director of Research Training

## **Appendix 4**

### **Ethics and Research Governance approval**



# National Research Ethics Service

Bradford Research Ethics Committee  
Top Floor  
Extension Block  
St Lukes Hospital  
Little Horton Lane  
Bradford  
BD5 0NA

**Chairman:** Professor Alan C Roberts  
OBE TD DL MPhil PhD DSc DTech LLD FLS FIBiol  
**Administrator:** Susan Jude

**Tel:** 01274 365508  
**Fax:** 01274 365509

**Email:** susan.jude@bradfordhospitals.nhs.uk  
**Email:** alan.roberts@bradfordhospitals.nhs.uk

28 March 2008

Dr Zaffer Iqbal  
Clinical Lecturer and Research Tutor  
Clinical Psychology Unit  
University of Sheffield  
Western Bank  
S10 2TP

Dear Dr Iqbal

**Full title of study:** Do relapse plans reduce the risk of inpatient admission for African Caribbean men with an enduring mental illness?  
**REC reference number:** 08/H1302/30

The Research Ethics Committee reviewed the above application at the meeting held on 18 March 2008.

## Ethical opinion

Study presented by Dr Jo Nicholson, thank you for attending.  
The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation.

## Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

## Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Application		03 March 2008
Investigator CV		
Protocol	2	18 January 2008
Covering Letter		03 March 2008
Letter from Sponsor		21 February 2008
Peer Review		19 February 2008

Questionnaire	1	
GP/Consultant Information Sheets	1	03 August 2004
Participant Information Sheet	1	18 January 2008
Participant Consent Form	1	18 January 2008
Proforma	1	18 January 2008
Flowchart	1	18 January 2008

### R&D approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final approval from the R&D office for the relevant NHS care organisation.

### Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

### Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

### After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

Here you will find links to the following

- Providing feedback. You are invited to give your view of the service that you have received from the National Research Ethics Service on the application procedure. If you wish to make your views known please use the feedback form available on the website.
- Progress Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
- Safety Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
- Amendments. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
- End of Study/Project. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email [referencegroup@nationalres.org.uk](mailto:referencegroup@nationalres.org.uk).

08/H1302/30

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

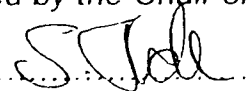
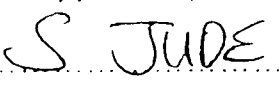


Professor A Roberts  
Chairman – Bradford Research Ethics Committee

**Bradford Research Ethics Committee**

**LIST OF SITES WITH A FAVOURABLE ETHICAL OPINION**

*For all studies requiring site-specific assessment, this form is issued by the main REC to the Chief Investigator and sponsor with the favourable opinion letter and following subsequent notifications from site assessors. For issue 2 onwards, all sites with a favourable opinion are listed, adding the new sites approved.*

<b>REC reference number:</b>	08/H1302/30	<b>Issue number:</b>	1	<b>Date of issue:</b>	28 March 2008
<b>Chief Investigator:</b>	Dr Zaffer Iqbal				
<b>Full title of study:</b>	Do relapse plans reduce the risk of inpatient admission for African Caribbean men with an enduring mental illness?				
<p><i>This study was given a favourable ethical opinion by Bradford Research Ethics Committee on 18 March 2008. The favourable opinion is extended to each of the sites listed below. The research may commence at each NHS site when management approval from the relevant NHS care organisation has been confirmed.</i></p>					
<b>Principal Investigator</b> Dr Zaffa Iqbal	<b>Post</b>	<b>Research site</b> Sheffield Care Trust	<b>Site assessor</b>	<b>Date of favourable opinion for this site</b>	<b>Notes <sup>(1)</sup></b>
<p>Approved by the Chair on behalf of the REC:</p> <p>  ..... (Signature of Chair/Co-ordinator)  (delete as applicable) </p> <p>  ..... (Name) </p>					

- (1) The notes column may be used by the main REC to record the early closure or withdrawal of a site (where notified by the Chief Investigator or sponsor), the suspension or termination of the favourable opinion for an individual site, or any other relevant development. The date should be recorded.

Dr Zaffer Iqbal  
Clinical Psychology Unit  
University of Sheffield  
Western Bank  
Sheffield  
S10 2TP

**Consortium Ref:**      **ZJ84**

You now have **Research Governance approval from this Consortium** to carry out research as described in documentation you have supplied to us.

1. Please inform us of the actual project start date immediately you do start and at that time inform us also of the expected end date.
2. In order to comply with the NHS Research Governance Framework, please copy the Consortium into all future project monitoring forms that you send to the relevant Research Ethics Committee, including the “Declaration of End of Study”.
3. The Consortium recommends the attached format for maintenance of your project site file to ensure all documentation is readily accessible.
4. You will also need to seek approval for every future change to protocol or project title and I suggest you do this by sending us a draft of the submission you will also have to make to the NHS REC and that you do so at the same time as that submission to the REC. See the following web reference for details:  
[www.nres.npsa.nhs.uk/applicants/review/after/amendments.htm](http://www.nres.npsa.nhs.uk/applicants/review/after/amendments.htm)
5. The Consortium recommends the attached amendment log in order to track amendment submissions to, and approvals from, the relevant REC and R&D office(s)
6. **As Chief Investigator, you have an obligation to report all research-related adverse events directly to the Consortium.**
7. **As Chief Investigator, you are reminded of your obligations in relation to the Mental Capacity Act 2005. See the following web reference for details:**  
[www.rdforum.nhs.uk/docs/mca\\_guidance.doc](http://www.rdforum.nhs.uk/docs/mca_guidance.doc)

8. **You need to seek Consortium approval for any additions to your research team not already included in documentation sent to us. For this purpose, please send a short CV, preferably in the format required by the NHS REC.**
9. This Research Governance approval is given on the understanding that the findings of the research will be appropriately disseminated in peer-reviewed journal(s) and to research participants and any organisations representing their interests.

We wish you every success with the project and please feel free to contact us if you need further assistance from the Consortium.

Yours sincerely

Dr Robert Dixon  
Consortium Manager

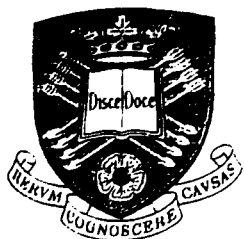
Enc    Site File Guidance  
         Amendment Log

Cc     Dr Tom Ricketts  
         Dr Jo Nicholson  
         Jonathan Boote  
         Project File

## **Appendix 5**

**Scientific approval, indemnity and research governance**

**sponsorship: University of Sheffield**



The  
University  
Of  
Sheffield.

The  
Research  
Office.

To: Rob McFarland  
Clinical Psychology Unit  
Department of Psychology  
Western Bank  
University of Sheffield  
Sheffield  
S10 2TN

A Section of the Academic Division,  
Research Services

New Spring House  
231 Glossop Road  
Sheffield  
S10 2GW

21<sup>st</sup> February 2008

Telephone: +44 (0) 114 222 1448  
Fax: +44 (0) 114 222 1452  
Email: r.j.hudson@sheffield.ac.uk

Dear Mr McFarland

### CONDITIONAL AGREEMENT TO BE THE PROJECT'S RESEARCH GOVERNANCE SPONSOR

**Title:** Do relapse plans reduce the risk of inpatient admission for African Caribbean men with an enduring mental illness?

**URMS Reference:** 121947

This is to confirm that in respect of the above project, of which your Supervisor is Dr Zaffer Iqbal the University of Sheffield agrees conditionally to be the project's 'research governance sponsor'. In agreeing conditionally to be the research governance sponsor the University confirms that:

1. The research proposal has been discussed with the Supervisor and investigator and agreement in principle to sponsor the research is in place;
2. An appropriate process of scientific critique has demonstrated that this research proposal is worthwhile and of high scientific quality;
3. Any necessary indemnity/insurance arrangements will be in place before the research starts;
4. Arrangements will be in place before the study starts for the research team to access resources & support to deliver the research as proposed;
5. Arrangements to allocate responsibilities for the management, monitoring & reporting of the research will be in place before the research starts;
6. The duties of the research governance sponsor will be undertaken in relation to the research.

Please enclose this letter with your ethics application when submitting it to the NHS Research Ethics Committee. In due course please provide Mr Richard Hudson ([r.j.hudson@sheffield.ac.uk](mailto:r.j.hudson@sheffield.ac.uk)) with evidence of independent ethical approval (e.g. a copy of the letter from an NHS Research Ethics Committee).

Please note **Annex 1** attached to this letter where the responsibilities of the Supervisor and Head of Department in relation to research governance are outlined. The expectation is that the Supervisor's responsibilities are fulfilled with your support and input.

Yours sincerely



SEAN O'NEILL  
The University of Sheffield  
10th Floor, 10th Floor  
10th Floor, 10th Floor



INVESTOR PEOPLE  
Central Services have  
achieved the highest  
in the country



THE QUEEN'S  
ANNIVERSARY PRIZES  
1998 2000 2001

To access the University's research governance website go to:  
[www.shef.ac.uk/researchoffice/gov\\_ethics\\_grp/governance/gov.html](http://www.shef.ac.uk/researchoffice/gov_ethics_grp/governance/gov.html)

## Monitoring responsibilities of the Supervisor:

The primary responsibility for project monitoring lies with the Supervisor. You agree, with the support and input of the supervised-student, to:

1. Establish a **site file** before the start of the project and ensure it remains up to date over the project's entire lifetime:  
[www.shef.ac.uk/researchoffice/gov\\_ethics\\_grp/governance/rgp/rg-forms.html](http://www.shef.ac.uk/researchoffice/gov_ethics_grp/governance/rgp/rg-forms.html)
2. Provide **standard monitoring progress reports** to the Head of Department at the following intervals in a project's lifetime:
  - a. three months after the project has started; and
  - b. on an annual basis (only if the project lasts for over 18 months); and
  - c. at the end of the project.
 See: [www.shef.ac.uk/researchoffice/gov\\_ethics\\_grp/governance/rgp/rg-forms.html](http://www.shef.ac.uk/researchoffice/gov_ethics_grp/governance/rgp/rg-forms.html)
3. Report **adverse events**, should they occur, to the Head of Department:  
[www.shef.ac.uk/researchoffice/gov\\_ethics\\_grp/governance/rgp/rg-forms.html](http://www.shef.ac.uk/researchoffice/gov_ethics_grp/governance/rgp/rg-forms.html)
4. Provide progress reports to the research funder (if externally-funded).
5. Establish appropriate arrangements for recording, reporting and reviewing significant developments as the research proceeds – i.e. developments that have a significant impact in relation to one or more of the following:
  - the safety or physical or mental integrity of the participants in the project;
  - the project's scientific direction;
  - the conduct or management of the project.
 The Head of Department should be alerted to significant developments in advance wherever possible.

\*\*\*\*\*

## Monitoring responsibilities of the Head of Department

You agree to:

1. Review the **standard monitoring progress reports**, submitted by the Principal Investigator, and follow up any issues or concerns that the reports raise with the Principal Investigator.
2. Verify that **adverse events**, should they occur, have been reported properly and that actions have been taken to address the impact of the adverse event(s) and/or to limit the risk of similar adverse event(s) reoccurring.
3. Verify that a project is complying with any **ethics conditions** (e.g. that the information sheet and consent form approved by ethics reviewers is being used; e.g. that informed consent has been obtained from participants).
4. Introduce a form of **correspondence** (e.g. regular email, annual meeting) with a project's Principal Investigator, that is **proportionate to the project's potential level of risk**, in order to verify that a project is complying with the approved protocol and/or with any research funder conditions. Whatever correspondence is chosen the Head of Department should, as a minimum, ensure that s/he is informed sufficiently in advance about significant developments wherever possible.



## **Appendix 6**

### **Approval of substantial amendment by Ethics, Research Governance and University of Sheffield**

18 June 2009

Mr Rob McFarland  
Trainee Clinical Psychologist  
Clinical Psychology Unit  
Department of Psychology  
University of Sheffield  
Western Bank  
Sheffield S10 2TP

Fulwood House  
Old Fulwood Road  
Sheffield  
S10 3TH

Tel: 0114 2718304  
Fax: 0114 2716736  
Email: [shsrc@shsc.nhs.uk](mailto:shsrc@shsc.nhs.uk)  
[www.shsrc.nhs.uk](http://www.shsrc.nhs.uk)

Dear Mr McFarland

**Consortium Ref: ZJ84**

**Project Title: Do relapse plans reduce the risk of inpatient admission for African Caribbean men with an enduring mental illness?**

**REC Proposed Amendment 1 dated 20/04/09**


Thank you for your email of 17/06/09 with details of the above proposed amendment.

I can confirm on behalf of Sheffield Care Trust that you have research governance approval from this Consortium to implement the above amendment, subject to a favourable opinion from an NHS REC. Should an unfavourable opinion be received from the REC, then we should wish to receive the relevant correspondence including any reply you make.

For the benefit of our partner organisation research lead to whom I am copying this letter, I summarise the essential changes as follows:

- Change of Chief Investigator & inclusion of collaborator/investigator. - Dr Georgina Rowse will be the new Chief Investigator
- Further data analysis not fully covered/envisaged at initial application

Yours sincerely,



Dr Adrian Carr  
Director

cc Dr Tom Ricketts  
Dr Jo Nicholson  
Project File

Bradford Research Ethics Committee  
Top Floor  
Extension Block  
St Lukes Hospital  
Little Horton Lane  
Bradford  
BD5 0NA

**Chairman:** Professor Alan C Roberts  
OBE TD DL MPhil PhD DSc DTech LLD FLS FIBiol  
**Administrator:** Susan Jude

**Tel:** 01274 365508

**Fax:** 01274 365509

**Email:** susan.jude@bradfordhospitals.nhs.uk

**Email:** alan.roberts@bradfordhospitals.nhs.uk

23 June 2009

Dr Georgina Rowse  
Clinical Psychology Unit  
Department of Psychology  
University of Sheffield  
Western Bank  
Sheffield  
S10 2TP

Dear Dr Rowse

**Study title:** Do relapse plans reduce the risk of inpatient admission for African Caribbean men with an enduring mental illness?  
**REC reference:** 08/H1302/30  
**Amendment number:** 1  
**Amendment date:** 01 May 2009

The above amendment was reviewed at the meeting of the Committee held on 16 June 2009.

Ethical opinion

Change of Chief Investigator and inclusion of collaborator/investigator. Further data analysis not fully covered/envisaged at initial application.

This was a big amendment and the Committee discussed the need for a new application, this was decided as not required as the amendment was mainly in the further data analysis.

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

### Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Protocol	3	20 April 2009
Notice of Substantial Amendment (non-CTIMPs)	1	01 May 2009
Investigator CV		

### Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

### R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

### Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

**08/H1302/30:****Please quote this number on all correspondence**

Yours sincerely

Professor A Roberts  
Chairman – Bradford Research Ethics Committee

*Enclosures:*                      *List of names and professions of members who took part in the review*

*Copy to:*                      Mr Richard Hudson  
University of Sheffield  
Research Services  
New Spring House  
231 Glossop Road  
Sheffield  
S10 2GW



The  
University  
Of  
Sheffield.

Department Of Psychology.  
**Clinical Psychology Unit.**

Doctor of Clinical Psychology (DClin Psy) Programme  
Clinical supervision training and NHS research training  
& consultancy.

Clinical Psychology Unit  
Department of Psychology  
University of Sheffield  
Western Bank  
Sheffield S10 2TP UK

Telephone: 0114 2226650  
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2<sup>nd</sup> June 2009

Robert McFarland

Dear Rob

**RE: Review feedback for the proposed study entitled:**

**Do relapse plans reduce the risk of inpatient admission for African Caribbean men with an enduring mental illness?**

**Approved, subject to the points below: Submit final version to Christie Harrison, Research Support Officer**

Thank you for resubmitting the above proposal for consideration as to its suitability for your DClin Psy research thesis.

I am pleased to inform you that this has now been approved, subject to you submitting a final copy including the correct date, and the correct address of Dr Jo Nicholson. Please submit this final version to Christie Harrison, Research Support Officer.

Once you have lodged with us a final copy of your approved proposal we will issue you with a standard letter of approval that you may need to send with your research governance application. *You should not send off your ethics or governance forms until you have this letter.* You should seek governance approval through The University (please speak to Christie Harrison who will register you) and also through any other collaborating trust/s. Ethical approval will need to be sought via The University (if your project does not involve the NHS, patients or staff in any way) or NRES.

Please keep all correspondence (including this letter) relating to your research, which need to be added to your site file. You should also now complete a research contract with your supervisor/s and other collaborators. Details of the contract and site file will be forwarded to you shortly.

A copy of this letter is being sent to your academic supervisor, but please note that it is your responsibility to ensure that you forward a copy to your NHS supervisor.

Yours sincerely

Dr Andrew Thompson, Director of Research Training

cc: Dr Georgina Rowse, Prof Michael Barkham

**Appendix 7: Full breakdown of diagnostic categories within the sample**

	<i>n</i>	%
<b>Diagnosis</b>	3351	99.9
Organic	59	1.8
Due to psychoactive substance	303	9
Schizophrenia & schizophreniform	1214	36.2
Bipolar & mania	483	14.4
Neurotic & somatoform	195	5.8
Mental & behavioural disturbance due to physical illness	18	.5
Personality disorders	291	8.7
Mental retardation	8	.2
EBD- onset childhood	22	.7
General examination & observation	211	6.3
Depressive mood disorders	544	16.2
Other	3	.1

**Appendix 8: Comparison by ethnic group of observed and expected socio-demographic and clinical characteristics**

	White British				Black Caribbean				Black African				Somali				British Asian – Pakistani			
	obs	%	exp	z	obs	%	exp	z	obs	%	exp	z	obs	%	exp	z	obs	%	exp	z
<b>Gender</b>	<b>2532</b>	<b>75</b>			<b>132</b>	<b>4</b>			<b>62</b>	<b>2</b>			<b>101</b>	<b>3</b>			<b>171</b>	<b>5</b>		
male	1119	44	1455	-8.8*	53	40	76	-2.6	23	37	36	-2.1	29	29	58	-3.8*	77	45	98	-2.1
female	1413	56	1077	10.2*	79	60	56	3.1	39	63	26	2.5	72	71	43	4.4	94	55	73	2.5
<b>Diagnosis</b>	<b>2529</b>	<b>75</b>			<b>132</b>	<b>4</b>			<b>62</b>	<b>2</b>			<b>100</b>	<b>3</b>			<b>171</b>	<b>5</b>		
schizophreniform	799	31	917	-3.9*	88*	67*	48	5.8*	25	40	23	0.5	54	54	36	3.0	92	54	62	3.8*
depressed mood	460	18	410	2.5	10	8	21	-2.5	5	8	10	-1.6	13	13	16	-0.8	13	8	28	-2.8
bipolar/mania	369	15	365	0.2	19	14	19	0.0	12	19	9	1.0	9	9	14	-1.4	32	19	25	1.5
personality disorder	264	10	219	3.0	4	3	12	-2.2	0	0	5	-2.3	0	0	9	-2.9	2	1	15	-3.3
substance related	252	10	229	1.5	3	2	12	-2.6	2	3	6	-1.5	10	10	9	0.3	10	6	16	-1.4
neurotic/somatoform	142	6	147	-0.4	1	1	8	-2.4	11	18	4	3.9*	4	4	6	-0.7	8	5	10	-0.6
general examination	148	6	159	-0.9	2	2	8	-2.2	6	10	4	1.1	10	10	6	1.5	12	7	11	0.4
other	95	4	83	1.3	5	4	4	0.3	1	2	2	-0.7	0	0	3	-1.8	2	1	6	-1.5
<b>Marital status</b>	<b>2448</b>	<b>76</b>			<b>132</b>	<b>4</b>			<b>55</b>	<b>2</b>			<b>96</b>	<b>3</b>			<b>170</b>	<b>5</b>		
single	1395	57	1442	-1.2	105	80	78	3.1	36	65	32	0.6	72	75	57	2.0	78	46	100	-2.2
married/with partner	568	23	569	-0.1	9*	7*	31	-3.9*	10	18	13	-0.8	16	17	22	-1.3	82	48	40	6.8*
other	485	20	437	2.3	18	14	24	-1.1	9	16	10	-0.3	8	8	17	-2.2	10	6	30	-3.7*
<b>Employment status</b>	<b>2280</b>	<b>77</b>			<b>123</b>	<b>4</b>			<b>47</b>	<b>2</b>			<b>90</b>	<b>3</b>			<b>151</b>	<b>5</b>		
employed	346	16	337	0.5	19	15	18	0.2	9	19	7	0.8	3	3	13	-2.8	11	7	22	-2.4
student	61	3	77	-1.9	1	1	4	-1.6	3	6	2	1.1	7	8	3	2.2	6	4	5	0.4
unemployed	1345	59	1389	-1.2	87	71	75	1.4	25	53	29	-0.7	65	72	55	1.4	116	77	92	2.5
other	510	22	477	1.5	16	13	26	-1.9	10	21	10	0.1	15	17	19	-0.9	18	12	32	-2.4
<b>Admission status</b>	<b>2532</b>	<b>75</b>			<b>132</b>	<b>4</b>			<b>62</b>	<b>2</b>			<b>101</b>	<b>3</b>			<b>171</b>	<b>5</b>		
informal	1784	70	1461	8.4*	59	45	76	-2.0	32	52	36	-0.6	47	47	58	-1.5	86	50	99	-1.3
compulsory	748	30	1071	-9.9	73	55	56	2.3	30	48	26	0.7	54	53	43	1.7	85	50	72	1.5
<b>Section ever</b>	<b>2532</b>	<b>75</b>			<b>132</b>	<b>4</b>			<b>62</b>	<b>2</b>			<b>101</b>	<b>3</b>			<b>171</b>	<b>5</b>		
no	1595	63	1656	-1.5	53	40*	86	-3.6*	28	45	41	-2.0	35	35	66	-3.8	70	41	112	-4.0*
yes	937	37	876	2.1	79	60*	46	4.9*	34	55	22	2.7	66	65	35	5.2	101	59	59	5.4*

\* significant at  $p < 0.000265$  ( $z = 3.46$ )

**Appendix 8 (cont): Comparison by ethnic group of observed and expected socio-demographic and clinical characteristics**

	British Asian - other				White other				Dual heritage				Other			
	obs	%	exp	z	obs	%	exp	z	obs	%	exp	z	obs	%	exp	z
<b>Gender</b>	<b>80</b>	<b>2</b>			<b>81</b>	<b>2</b>			<b>82</b>	<b>2</b>			<b>114</b>	<b>3</b>		
male	22	28	46	-3.5*	40	49	47	-1.0	26	32	47	-3.1	38	33	66	-3.4
female	58	72	34	4.1*	41	51	35	1.1	56	68	35	3.6*	76	67	49	3.9*
<b>Diagnosis</b>	<b>80</b>	<b>2</b>			<b>81</b>	<b>2</b>			<b>82</b>	<b>2</b>			<b>113</b>	<b>3</b>		
schizophreniform	33	41	29	0.7	23	28	29	-1.2	33	40	30	0.6	67	59	41	4.1*
depressed mood	11	14	13	-0.6	9	11	13	-1.1	8	10	13	-1.5	14	12	18	-1.0
bipolar/mania	18	23	12	1.9	18	22	12	1.8	1	1	12	-3.1	5	4	16	-2.8
personality disorder	1	1	1	-0.2	4	5	7	-1.1	14	17	7	2.6	2	2	10	-2.5
substance related	3	4	7	-1.6	9	11	7	0.6	8	10	7	0.2	6	5	10	-1.3
neurotic/somatoform	8	10	5	1.5	6	7	5	0.6	13	16	5	3.7*	2	2	7	-1.8
general examination	6	8	8	-0.5	8	10	5	1.3	4	5	5	-0.5	15	13	7	3.0
other	0	0	3	-1.6	4	5	3	0.8	1	1	3	-1.0	2	2	4	-0.9
<b>Marital status</b>	<b>69</b>	<b>2</b>			<b>72</b>	<b>2</b>			<b>82</b>	<b>3</b>			<b>106</b>	<b>3</b>		
single	48	70	41	1.1	39	54	42	-0.5	59	72	48	1.5	71	67	63	1.1
married/with partner	19	28	16	0.8	18	25	17	0.3	8	10	19	-2.5	21	20	25	-0.7
other	2	3	12	-2.9	15	21	13	0.6	15	18	15	0.1	14	13	19	-1.1
<b>Employment status</b>	<b>58</b>	<b>2</b>			<b>66</b>	<b>2</b>			<b>78</b>	<b>3</b>			<b>85</b>	<b>3</b>		
employed	4	7	9	-1.6	14	21	10	1.3	8	10	12	-1.0	8	9	13	-1.3
student	7	12	2	3.5*	5	8	2	1.9	3	4	3	0.2	8	9	3	3.0
unemployed	32	55	35	-0.6	39	59	40	-0.2	54	69	48	0.9	51	60	52	-0.1
other	15	26	12	0.8	8	12	14	-1.6	13	17	16	-0.8	18	21	18	0.0
<b>Admission status</b>	<b>80</b>	<b>2</b>			<b>81</b>	<b>2</b>			<b>82</b>	<b>2</b>			<b>114</b>	<b>3</b>		
informal	37	46	46	-1.4	46	57	47	-0.1	52	63	47	0.7	51	45	66	-1.8
compulsory	43	54	34	1.6	35	43	34	0.1	30	37	35	-0.8	63	55	48	2.1
<b>Section ever</b>	<b>80</b>	<b>2</b>			<b>81</b>	<b>2</b>			<b>82</b>	<b>2</b>			<b>114</b>	<b>3</b>		
no	29	36	52	-3.2	42	52	53	-1.5	42	51	54	-1.6	42	37	75	-3.8*
yes	51	64	28	4.4*	39	48	28	2.1	40	49	28	2.2	72	63	39	5.2*

\* significant at  $p < .000265$  ( $z > 3.46$ )